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ISSUE 149 MAY 2014

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ALL FIRED UP
Amazon is ramping up its presence in games with Fire TV, the acquisition of Double Helix and several high-profile hires. VP of Games Mike Frazzini tells us why this is just the beginning

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Are you a finalist?

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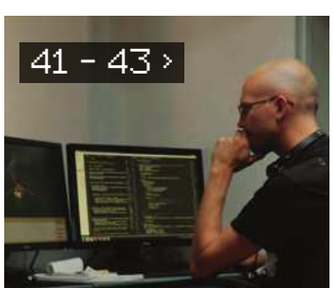
QA SPECIAL
The world of testing explored



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The rise of web development

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EDITORIAL

GAMING'S GOT TALENT

FIRST, FACEBOOK ACQUIRED Oculus VR. Just weeks later, Amazon announced and launched the Fire TV console in the US. It seems that everyone wants a piece of the gaming pie.

Granted, the two firms have had a presence in games for many years, but the move into virtual reality and launch of a home entertainment device mark significant commitments from both the social network and the e-commerce giant. And in the case of the latter, it's the culmination of years of work.

Rumours of an Amazon console have been circulating for a while now, fuelled by the surprise acquisition of *Killer Instinct* dev Double Helix. But in all the excitement of a new device, it's easy to overlook the sizeable talent pool the firm is building.

Notable names such as *Portal* creator Kim Swift and *Splinter Cell* designer Clint Hocking have seemingly ditched traditional platforms in favour of Amazon's new device, joining a team that is already well versed in creating hit games.

The big names of development are looking for new challenges. With a powerful but predictable new generation of consoles still gaining traction and the mobile space becoming impossibly crowded, it will be interesting to see where the talent migrates to in the next few years.

Amazon is unlikely to be the last big corporation that expands unexpectedly but aggressively into games development. As our medium attracts more attention from other industries, the possibilities for experienced games makers expands. And I, for one, can't wait to see how they use their decades of experience to redefine gaming in new arenas.

James Batchelor
james.batchelor@intentmedia.co.uk

And the finalists are...

Almost 140 companies shortlisted for the 2014 Develop Awards across 24 categories ● 14 European nations represented by nearly 70 studios and 46 hit games ● New tools prize created after flood of nominations

by James Batchelor

COMPETITION FOR THIS year's Develop Awards will be hotter than ever with well over 100 companies listed as finalists for the July event.

A total of 136 firms have been shortlisted for the 24 prizes available at the 2014 Develop Awards, encompassing games studios, tools providers, services firms, platform holders, publishers, composers, universities and more.

Among the finalists are 68 games studios, ranging from one-man indies to 100-plus strong teams, representing 14 different European countries. There are also 46 acclaimed games shortlisted for their gameplay, visuals, audio, music, technical innovations and the creative talent behind them.

> ***"Among the finalists are 68 games studios representing a total of 14 different European countries."***

David Cage's studio Quantic Dream leads the way this year with four nominations for its cinematic PS3 adventure *Beyond: Two Souls*. Close behind with three nominations each are *Total War* creator Creative Assembly, *Tearaway* dev Media Molecule and German powerhouse Crytek.

However, it's the PlayStation empire that could take home more than ten awards, with Media Molecule's trio of nominations adding to those of Guerrilla's *Killzone: Shadow Fall*, SCE London Studios' *Diggs Nightcrawler* and *Wonderbook: Book of Potions*, and virtual reality device Project Morpheus.

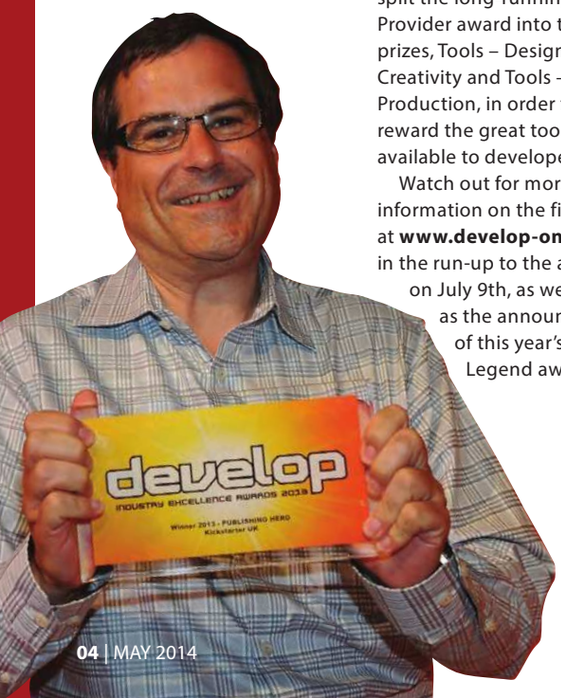
Similarly, Ubisoft could go home with four prizes thanks to nominations for the firm's graduate programme, the composers of *Assassin Creed IV*'s multiplayer, Ubisoft Montpellier's *Rayman Legends* and the ongoing work of Ubisoft Reflections.

Other notable nominees include Rockstar North's *GTA V* and indie hit *Device 6*.

There are six new categories this year, including the previously announced QA & Localisation, Talent Investment, Musical Composition and special award Studio of the Year, the winner of which will be announced on the night.

Due to the high number of nominations, we have also split the long-running Tools Provider award into two new prizes, Tools – Design & Creativity and Tools – Production, in order to better reward the great toolsets available to developers today.

Watch out for more information on the finalists at **www.develop-online.net** in the run-up to the awards on July 9th, as well as the announcement of this year's Develop Legend award. ■



The Develop Awards 2014 will take place at the Brighton Metropole Hotel on Wednesday, July 9th – be sure to book your place

DEVELOP AWARDS 2014: THE FINALISTS

NEW GAMES IP
Beyond: Two Souls – Quantic Dream
Brothers: Tale of Two Sons – Starbreeze Studios
Clumsy Ninja – NaturalMotion
Monument Valley – Ustwo
Resogun – Sony xDev / Housemarque
Rust – Facepunch Studios
Starbound – Chucklefish Games
Tearaway – Media Molecule

USE OF A LICENCE OR IP
Batman: Arkham Origins multiplayer – Splash Damage
Disney Infinity: Pirates of the Caribbean – Studio Gobo
Joe Dever's Lone Wolf – Forge Reply
LEGO Marvel Super Heroes – TT Games
Metro: Last Light – 4A Games
Moshi Monsters: Katsuma Unleashed – Sumo Digital
Peppa Pig's Holiday – Strawdog Studios
Sherlock: The Network – The Project Factory

VISUAL ARTS
Beyond: Two Souls – Quantic Dream
Grand Theft Auto V – Rockstar North
Killzone: Shadow Fall – Guerrilla Games
Tearaway – Media Molecule
Tengami – Nyamyam
The Dark Eye: Memoria – Daedelic Entertainment
TxK – Llamasoft
Ryse: Son of Rome – Crytek

AUDIO ACCOMPLISHMENT
Battlefield 4 – EA DICE
Device 6 – Simogo
Rayman Legends – Ubisoft Montpellier
Resogun – Sony XDev / Housemarque
Salvage – Mad Fellows
Tearaway – Media Molecule
Total War: Rome II – Creative Assembly
Wonderbook: Book of Potions – SCE London Studio

MUSICAL COMPOSITION
Brendan Ratliff, *'Theme of Awesome'* – *Fist of Awesome*
David Wise, *'The Awakening'* – *Tengami*
Jamie Hamshere, *'Noise Pulse'* – *TxK*
James Hannigan's *'Horizon'* – *RuneScape 3*
Jesper Kyd's *'Welcome to Decay'* – *State of Decay*
Jim Fowler's *'Diggsieland'* – *Diggs Nightcrawler*
Joe Henson & Alexis Smith's *'Portobelo'* – *Assassin's Creed IV: Black Flag* multiplayer
Olivier Derivière, *'Nilin the Memory Hunter'* – Remember Me

USE OF NARRATIVE
Beyond: Two Souls – Quantic Dream
Broken Sword 5 – Revolution Software
Brothers: A Tale of Two Sons – Starbreeze Studios
Device 6 – Simogo
Ether One – White Paper Games
Foul Play – Mediatonic
Pearl's Peril – Wooga
Sherlock: The Network – The Project Factory

PUBLISHING HERO
505 Games
AppyNation
Chillingo
Curve Digital
Kiss Ltd
Microsoft
Positech Games
SCE Strategic Content

TECHNICAL INNOVATION
Kinect Sports Rivals' Champion Scanning – Rare
GameSparks cloud services – GameSparks
DI4D head-mounted capture system – Dimensional Imaging
Nvidia Shield – Nvidia
Oculus Rift DK2 – Oculus VR
PlayCanvas – PlayCanvas
PowerVR Ray Tracing GPUs – Imagination Technologies
Project Morpheus – Sony Computer Entertainment

DON'T FORGET TO BOOK YOUR PLACE

THE DEVELOP AWARDS 2014 will take place on the evening of Wednesday, July 9th, once again held at the Brighton Metropole Hotel.

You can book a table or single seat by contacting **Kathryn.Humphrey@intentmedia.co.uk** or calling 01992 535 647.

Alternatively, for more information on the sponsorship and partnership opportunities still available, contact **Alex.Boucher@intentmedia.co.uk** or call 01992 535 647.

Current Develop Awards partners include Platinum Partners Crytek and Deep Silver, Gold Partners Codemasters, Amiqus, Keywords International and UKIE and Table Gift Partner OPM Recruitment.

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TABLE GIFT PARTNER

(Clockwise from top right) Beyond: Two Souls, Grand Theft Auto V and Tearaway are among the 46 games nominated

TOOLS – DESIGN AND CREATIVITY
Wwise – Audiokinetic
Maya LT – Autodesk
Enlighten – Geomerics
Granite SDK – Graphine Software
Umbra 3 Visibility Solution – Umbra Software
Yebis 2 – Silicon Studio

TOOLS – PRODUCTION
Hansoft 7.5 – Hansoft
Marmalade Juice – Marmalade
Perforce – Perforce
Shotgun – Shotgun Software
Simplygon – Donya Labs
PS4 Developer Environment – SN Systems

ENGINE
CryEngine – Crytek
GameMaker – YoYo Games
Project Anarchy – Havok
Unreal Engine 4 – Epic Games
Unity Engine – Unity Technologies

SERVICES
Audiomotion
DeltaDNA
Dimensional Imaging
Engine Room Games
Player Research
Sperasoft
Simplygon
Vicon

QA & LOCALISATION
CultureTranslate
GameBench
Keywords International
LocalizeDirect
Testology
Testronic Labs
Universally Speaking
VMC

CREATIVE CONTRIBUTION: AUDIO
93 Steps – *War Thunder Heroes* trailer
Air Edel – *Killzone: Mercenary*
High Score Productions – *World of Tanks*
Pinewood Studios – *Total War: Rome II*
Stafford Bawler – *Monument Valley*
The Audio Guys – *Forza Motorsport 5*

CREATIVE CONTRIBUTION: VISUALS
Atomhawk – *Project Spark*
Axis Animations – *Fable Legends* trailer
Cubic Motion – *Battlefield 4*
Fireproof Studios – *Tearaway*
Faceware Technologies – *Grand Theft Auto V*
Realtime UK – *Smite* trailer

RECRUITER
Aardvark Swift
Amiqus
Avatar Games
Creative Personnel
CV Bay
Datascope
OPM Response
Specialmove

TALENT INVESTMENT
Creative Assembly
Dare to be Digital, Abertay
Jagex
King
National Film and Television School
The Livingstone School
Ubisoft Graduate Programme
Wales Interactive

BUSINESS DEVELOPMENT
Bossa Studios
Eutechnyx
Frontier Developments
Keywords International
nDreams
Outplay Entertainment
Pitbull Studios
Team17

MICRO STUDIO
Chucklefish Games
Guerrilla Tea
Mudvark
Positech Games
Roll7
Simon Roth
Tom Francis
Vlambeer

INDEPENDENT STUDIO
4A Studio
Bohemia Interactive
Codemasters
Crytek
Facepunch Studios
Quantic Dream
Rebellion
Wargaming

IN-HOUSE STUDIO
Creative Assembly
Media Molecule
Press Play
Rare
RedLynx
Rockstar North
Sports Interactive
Ubisoft Reflections

NEW STUDIO
Eight Pixels Square
Force of Habit
Formerdroid
Grand Cru
Modern Dream
Scattered Entertainment
Space Ape Games
The Tiniest Shark

STUDIO OF THE YEAR
To be announced

DEVELOPMENT LEGEND
To be announced

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Console gamers could warm to microtransations

But Kabam president Andrew Sheppard says pay-to-win model is no longer viable for devs

by James Batchelor

IT IS ONLY a matter of time before studios are able to convince console users to splash out on in-game purchases without a major backlash.

That's according to Andrew Sheppard, president of free-to-play giant Kabam, who says history has shown studios and publishers can eventually get a hardcore audience to trust new business models.

While in-app purchases have long since been a staple of mobile games, there was scepticism when Activision added microtransactions to *Call of Duty: Black Ops II* in 2012, and outcry when Microsoft incorporated virtual currency into Xbox One launch title *Forza Motorsport 5*.

But while he doesn't condone such ventures, Sheppard observes that the same reactions could be seen with previous experiments to increase the value of a retail game – experiments that have since become standard practice in the console market.

"What you've seen over the last year is a number of triple-A games from consoles and PC try to reboot as free-to-play products," he told *Develop*. "That violates something I believe as a consumer, which is an expectation of what the gameplay experience will be. You can't ask for people to pay you if you haven't earned their trust and presented value in a way that makes sense.

> ***You can't ask for people to pay you if you haven't earned their trust.***
>
> Andrew Sheppard, Kabam

"The approach you've seen the traditional industry pursue is to sell a core game like *The Sims* and then sell expansion packs around it. Then with Xbox Live and PlayStation Network, you sell either subscriptions or map packs. In doing so, you're saying the $50 box can be a $120 box.

"You've seen tension from gamers in the press, but over time it's faded and people have become comfortable with it – especially with some of my favourite games, like *Mass Effect 3*.

"But if you try to take that brand and put it in a different business model, you have to change the gameplay to match that model, and then you've asked brand loyal customers to pay against it in a way they're not familiar with."

Mass Effect 3 also attempted microtransactions with its multiplayer, although furore over the game's ending drowned out any criticism.

The Kabam president warned that, even if hardcore gamers are becoming less resistant to forking out for in-game content or currency, it's vital that developers enable them to progress without doing so – something *Forza* was accused of preventing.

"Some games are very explicitly pay-to-win or pay-to-advance – that structure doesn't really work in today's world," said Sheppard. "It doesn't present non-paying users nor casual spenders with the ability to progress.

"It was something that could have worked back in 2009/2010, but the market's more mature, more savvy now and that's not really what people want.

"They want to increase their skills when they play games. They want to use skill to advance. So as a company that specialises in hardcore free-to-play games, this is a dimension that we're very focused on." ■

Titles like Mass Effect sold the DLC concept to gamers, so why not IAPs?

BREAKING THE F2P MOLD

KABAM IS INVESTING significant resources in finding new game types that it can bring to the free-to-play market.

Best known for its strategy and MMO titles, it branched out last year with licensed racer *Fast and Furious 6* (*below*) – and this year's line-up will supposedly take Kabam's new approach to game design a lot further.

"About 20 to 30 per cent of our R&D budget is against games that no one would expect from Kabam, very similar to the way that no one expected Kabam to go to mobile or produce games like *Fast and Furious 6*," president of Kabam Studios Andrew Sheppard told *Develop*.

"I think people will be impressed with the quality of our next games, especially in 2015, where we have some titles that are internally causing productivity problems. That's a good problem to have – as long as it ships.

"*Fast 7*, which is the next game that we're working on with Universal, is not only an evolution and refinement of what we did with *Fast 6*, but you'll also see some gameplay that people wouldn't expect."

develop iPad

Videos are available within the iPad edition of *Develop* on iTunes and the browser-based Digital Edition, which can be accessed at develop-online.net

THIS MONTH

Check out the video demos of the latest new technology and design techniques.

An introduction to cloud-based platform PlayCanvas

P48

Watch Futuremark's test software 3DMark in action

P50

Geomerics demonstrates Enlighten on Unity 5

P56

Chillingo: free-to-play is the 'fairest model in the world'

But general manager Ed Rumley warns F2P developers and publishers have responsibility to new gamers

by James Batchelor

EA-OWNED FREE-TO-PLAY games publisher Chillingo claims that the business model is the "fairest in the world" because it is the most empowering for consumers.

Speaking to *Develop*, general manager Ed Rumley *(pictured)* pointed to the freedom for players to invest as much – or as little – time and money into whichever titles they choose, and that ultimately it's a choice that lies solely in the hands of the consumer.

"Free-to-play games are a fantastic way to introduce and engage players who once upon a time never considered themselves 'gamers'," he said.

"It's a natural fit for mobile and tablet games since consumers generally always have the device with them and are constantly seeking new forms of entertainment.

"The model allows people to have the variety and freedom to choose what they want and how engaged they want to be with a game or app. It's the fairest model in the world with so much choice.

"In the coming years, I do feel that players will become more discerning about the games they download. They'll continue to recognise brands and associate quality gameplay experiences with certain publishers and developers."

It's a bold view given the controversy that often surrounds the microtransactions attached to free-to-play titles. The European Commission is currently investigating the use of in-app purchases in mobile games following complaints from "all over Europe".

Chillingo has helped publish a number of F2P titles including Fright Heights (top), Duck Destroyer (left) and Iron Force (right)

It follows a similar investigation by the UK's Office of Fair Trading that concluded developers and publishers must give fair warning if a free title aimed at children involves costly microtransactions.

Such actions by government bodies stimulate talk of free-to-play games 'nickel and diming' consumers with pay-to-win titles. But Chillingo claims this stigma is not as widespread as you might think.

"That perception may still be there with the group you would have once considered gamers," said Rumley. "But when you look at the huge mass market audience on mobile games, that perception isn't necessarily there.

> ***"F2P allows people to have the variety and freedom to choose what they want and how engaged they are."***
>
> Ed Rumley, Chillingo

"People are playing these games for fun and if correctly executed, that's more powerful than the business model."

WELCOME PARTY

As Rumley observes, F2P titles are often consumers' first experience of video games if they haven't been traditional console or PC gamers. And he says this places a great deal of responsibility with studios creating new F2P titles, as they essentially define the gateway into the industry.

While many devs concern themselves with refining their monetisation model, designing titles for first-time players is more important than ever.

"Free-to-play provides the opportunity to introduce millions of new players to the world of mobile gaming," said Rumley. "It's the responsibility of developers and publishers to ensure that their experience is positive.

"Starting from the ground up, it's important that titles are developed with the appropriate gameplay design and right monetisation model in mind. Striking the right balance is the key to success.

"We firmly believe the player is king – therefore, we emphasize that the gaming experience should first and foremost be fun. If you have that foundation established and maintain that focus throughout the development cycle, then the free-to-play aspects will organically occur."

That responsibility doesn't stop at launch, either. Rumley says Chillingo has become as much a live services organisation as it has a developer and publisher, claiming the shift to F2P has "impacted our DNA".

"Servicing a free-to-play mobile game is just as critical as designing it correctly," he said. "Ensuring that players constantly receive an engaging experience is fundamental. This means having reliable servers and continuously delivering content that players want.

"I'm proud to say that our team has adapted its practices and are leveraging our decade's worth of mobile gaming expertise and the resources of EA to advise developers on how to navigate through this shift in the industry. There are endless opportunities ahead, and we pride ourselves in being nimble enough to help indie games developers continue to find success." ■

Rumley will be discussing more on the free-to-play model at this year's Develop Conference in Brighton, which will be held from July 8th to 10th. Find out more at **www.developconference.co.uk**

CREATING AMAZING iOS/MOBILE GAMES

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David Darling,
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Power Up: The Beautiful Game

Microsoft and supporting games industry partners are working together to help encourage the growth in the UK games industry and help developers of all sizes. As part of this ambition we have created a competition to provide new store opportunities for your games and to help get your titles discovered. Individual game developers have just as good a chance of winning as larger studios – the most unlikely games are sometimes the biggest hits!

Power Up: The Beautiful Game competition runs until 20th June 2014. It is open to all UK games developers who port and publish their new or existing games titles to Microsoft Windows 8 and/or Windows Phone Stores. Each game entered will receive points for a wide range of game experiences and the number of downloads the games get on the Windows or Windows Phone Stores. The top 20 games with the most points will win great prizes for their developers, but all entrants have an opportunity for their games to be discovered and downloaded by 100,000s to millions of players.

With 20 prizes up for grabs you have a good chance of winning – no top 3 winners here. You can also enter multiple games into the competition: the more games you enter, the more chances you have to win.

Boost your downloads

We want to ensure that your game is discovered and downloaded. The quality of the game does not always guarantee success. As such we have partnered with the Chartered Institute of Marketing (CIM) to provide some guidance on good practice apps marketing. Visit the competition website for more details.

Points are awarded for:

- Game experience – quality of audio execution, visual execution and gameplay
- Downloads per store – we will count the downloads in both the Windows and Windows Phone stores

Prizes galore!

There is a fantastic prize pot of £30,000 with highly valuable prizes, including a holiday and Supercar hire vouchers. There are also free Unity Pro licenses for all entrants for the duration of the competition. Other prizes include Nokia Lumia 1020s, Nokia Lumia 525s, a Chartered Institute of Marketing Apps Marketing course and a chance to attend a special mentoring event with selected Board members from TIGA and UKIE.

Competition

Microsoft

Getting started

To find out more and to enter the game, go to **www.beautifulgamecomp.com** complete the 'Registration Form' and follow the instructions – it's as simple as that!

Our industry partners:

DOLBY

"Sound is over half of the experience and when combined with great visuals, can completely transform the entertainment experience. The Beautiful Game is a showcase of what is possible and celebrates the very best in creativity and technology for the game developers community."

James Caselton
Marketing Director EMEA, Dolby Laboratories

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John Griffin
CMO, GameSparks Ltd

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Myra Smallman
Train2Game

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DEVELOP DIARY

Your complete games development events calendar for the months ahead

DIARY DATES

DEVELOP QUIZ
May 14th
London, UK
www.develop-online.net/events

MAY 2014

NEUROGAMING 2014
May 7th to 8th
San Francisco, USA
www.neurogamingconf.com

CLOUD GAMING EUROPE 2014
May 19th to 20th
London, UK
http://bit.ly/PX15rU

CASUAL CONNECT ASIA 2014
May 20th to 22nd
Singapore, Asia
asia.casualconnect.org

NORDIC GAME 2014
May 21st to 23rd
Malmö, Sweden
www.nordicgame.com

JUNE 2014

E3 2014
June 10th to 12th
Los Angeles, USA
www.e3expo.com

CANADIAN GAMING SUMMIT 2014
June 23rd to 25th
Vancouver, Canada
www.canadiangamingsummit.com

GAME QA & LOCALISATION EUROPE
June 24th to 26th
London, UK
www.gameqaloc.com/europe

GAMELAB BARCELONA 2014
June 26th to 28th
Barcelona, Spain
www.gamelab.es/2014/en

NEXT MONTH'S ISSUE

Develop #150 – June 2014

DEVELOP'S 150TH SPECIAL

Next month sees the arrival of our 150th issue and we're cooking up a series of special features to mark the occasion. We'll be revisiting the stars of *Develop*'s past, catching up with what they're working on now, and turning our attention to the future. And keep your eyes peeled for more surprises on *Develop Online*.
If you want to get involved, email **James.Batchelor@intentmedia.co.uk**.

RACING SPECIAL

A series of features looking at how the best racing games are made. We'll include interviews with leading studios like Codemasters and Playground Games, while the Build section will focus on tools used specifically for titles in the genre.

EXPLORING AI

Computer-controlled characters are becoming more and more lifelike. We look at how developers are adding more personality and realistic behaviour into their AI.

A VIEW ON VOXELS

Develop weighs up the benefits of using a voxel-based design when creating new games, and how to make the most of this technique.

GUIDE: USER INTERFACES

Making your game and its functions is essential to success. We look at the best solutions for creating your in-game interface.

COMING SOON

DEVELOP #151
JULY 2014

- Audio special
- Building a community
- How to create the perfect developer diary
- Guide: Texturing solutions

DEVELOP #152
AUGUST 2014

- Animation special
- Develop Awards recap
- Motion capture and facial animation
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Variable declarations

//COMMENT: BUSINESS

Is China's new console market a walled garden?

Nick Gibson debates whether the nation's new attitude to consoles is all that it seems

Foreign console makers would have to make significant changes to the way they deal with consumers and content providers in order be successful in China, says Nick Gibson

I WAS ASKED to appear on a TV news channel earlier this year to discuss the "major" tech industry news that the Chinese government was lifting its 13-year ban on all games console sales and to explain to viewers the "huge" opportunity this represented for Nintendo et al. It's easy to understand their excitement. With 1.4bn people, a burgeoning middle class and the fastest growing games market on the planet, surely this is another Chinese goldmine?

The nature of China's ban and its subsequent lifting (which is, technically, only "temporary") is pretty opaque. The ban began in 2000, ostensibly to protect the youth from Western immorality. More likely, it was implemented to encourage locally produced alternatives to successful Western products (as happened with Facebook, Twitter, etcetera) as the ban could be circumvented – by local companies.

Nintendo, via a Chinese partner, launched a Chinese version of the N64 – the iQue – in 2003 but only 14 games were ever permitted for release. Since then local companies Shanda, the9 and Lenovo have also launched their own consoles. In contrast, Sony launched PS2 in China in 2004 with comparatively limited local partnerships only to pull out a year later when its hardware was eventually declared illegal.

Any new entrant into the Chinese console market therefore faces two significant regulatory risks: that the government summarily decides to reinstate the ban or block specific hardware, and that few console games will ever actually be approved for release.

DIMINISHED ODDS

Given the government's track record with Western MMOs, it is likely that very few existing console games would meet the approval of the Ministry of Culture. Leaving aside government regulations, there also exists radically different tastes in content themes, gameplay, game types and even graphics styles between China and the West. This effectively makes China an insular market, into and out of which few console games would travel successfully. As the console manufacturers will need content to sell their hardware, it will therefore be necessary for them to invest, most likely heavily, in the development of China-specific games.

Chinese gamers have been raised on a diet of games with service-based revenue models: F2P, microtransactions and variations on subscriptions. Any half-successful game that is created as a product rather than a service will inevitably suffer massive piracy rates. The console makers would have to make significant changes to the way they deal with both consumers and content providers with a wholesale move to service-based revenue and customer support models. I doubt any of the console companies could manage such a huge transition any time soon.

These manifold barriers do not preclude the creation of a viable self-contained console games market in China but they seriously diminish the odds of success. None of the local games consoles have been successes. In fact there are probably larger installed bases for knock-off hardware such as the Vii and PolyStation and illegally imported Sony, Nintendo and Microsoft consoles, which are almost entirely chipped and used to play pirated games.

> ***"There are probably larger installed bases for knock-off consoles such as the Vii and PolyStation."***

So the existing console giants cannot simply replicate their existing businesses in China. It would take local partnerships, massive strategic adjustments and significant investment for them to even have a chance, an approach Microsoft might be taking with its joint venture with Chinese internet TV company BesTV announced last September.

I never went on the news channel in the end – my take that it wasn't a momentous development nor a huge opportunity didn't match their excited editorial. As for the future, I'd wait to see if the new wave of Chinese companies can prove there actually is a market. At least four local hardware manufacturers have announced forthcoming console or microconsole launches, but it remains to be seen whether they can reverse the failures of previous and much larger Chinese games firms.

Nick Gibson is a director at Games Investor Consulting, which provides commercial check-ups, strategy and data to games, media and finance companies.
www.gamesinvestor.com

//COMMENT: INDIE

Indie till I die

Team 17's **Debbie Bestwick** says staying indie is about balancing creativity with commerical thinking

PETER MOLYNEUX RECENTLY commented: "I don't think we're going to be all indies for the next five years – these things go in cycles, just like in the music business. You have a time where punk is big, and then you have times like now where everything is manufactured." And he's spot on.

Right now, indie developers will be working all the hours they can and surviving on just enough to get by – but to what end? Do they really want to be in the same situation five years down the line? Not likely. So while those fertile minds overflowing with creativity strive to add passion and determination into their project, someone needs to keep a look out for the sustainability and growth of the business.

Maximising effectiveness is a tricky balancing act. On the one hand, indies are trying to realise their dreams and make the best game they can; on the other, there's the commercial reality of making a return on all that blood, sweat and tears. Lesson one must surely be to explore opportunities on every conceivable platform. Unless a platform holder hands over a large bag of cash for exclusive rights, it makes absolutely no sense to not release on multiple platforms.

Middleware that takes care of the lion's share of cross-platform migration should be closely investigated. The results output by these time-saving tools will still need attention but the process will lead to multiple versions, giving indies access to previously inaccessible markets.

Thomas Was Alone creator Mike Bithell is realistic when it comes to his audience and multiple platforms, commenting recently: "Your average gamer who is not seeking out weird indie stuff – for them, me having a PC game coming out doesn't impress them." *Thomas Was Alone*'s success on Steam was certainly not to be sniffed at, but it's only part of the picture. Mike added, "I saw a ridiculous sales boost just because the second people saw it was coming to PlayStation, it became a 'real game' for a lot of people." Originally planned to be created in Flash, development was switched to Unity. Subsequently audiences have enjoyed the game on PC, Mac, PS3, PS Vita and Linux.

Lesson two for the indie must surely be to concentrate on what they do best. Any tasks that divert attention away from the primary focus of creating games will most likely have a detrimental effect, be it either on quality or the schedule. Part of the Team17 mantra is to always look for outside expertise when necessary. As Jastor Gallywix often says, "Time is money…" and outside skills are a sound investment when it comes to the development and marketing of a game. Buying in the necessary skill sets to aid in the completion of a project means indies can keep their overheads down while also having the luxury of outsourcing the very best talent to further add to the quality of the production.

LEARN FROM THE MASTERS

It's not just production values where indies should consider their options. Clever use of social media and attending events might help achieve a sort of cult status, but as Mike Bithell points out: "You'll require more traditional marketing and talking to press."

Marketing, public relations and sales are integral parts of a game's lifecycle. Indies should not lose sight of the fact that no matter how good their game is, without noise and store presence it will go largely unnoticed. For many, a strategic publishing deal is sometimes the best answer.

Understandably a publisher will want part of a revenue share, given that the work they undertake will improve the indie's and the game's visibility and vastly increase potential sales. Percentages can be haggled over, ownership cannot and the wise indie would do well to keep hold of their own IP for the sake of future growth and sustainability. Of course, we've all seen the rise of the indie before, albeit in a much more simple time. Remember the mail order ads that appeared on the back pages of the computer game press in the late 80s and early 90s? Legend has it that Peter Molyneux's first game, a text-based business sim called *The Entrepreneur*, sold two copies. Since then he's secured his future by creating and selling both Bullfrog then Lionhead, making some pretty mainstream games in the process. His passion for games undoubtedly remains the same while his sound business decisions have allowed him to retain his independence. Modern indies would do well to learn from the past masters.

In order to retain independence, Bestwick feels developers should follow the example of Peter Molyneux (above), who has sold two companies and is still making games today

Debbie Bestwick is one of the founding members of Team17. She pioneered the company's leap into digital publishing, and was promoted to CEO in 2009.
Find her on Twitter: **@djbteamsters**
www.team17.com

//EXTRA CONTENT ONLINE

"Entering a VR environment pulls back the curtain on a lot of game developers' go-to tricks for reducing their workload."

Three VR game design principles
Andrew Bean & Simon Doyle
deve1op.net/1lQp32W

"Looking back on this period, it's hard not to conclude the government really didn't have a clue. They said tax breaks would never be allowed."

The games tax breaks saga
Fred Hasson, TIGA founder
deve1op.net/1i1W6N2

"A common misconception is that virtual reality technologies will consume and negatively impact our neural relation to reality."

The brain loves VR
Cody Borst, Games designer
deve1op.net/1hxNfHK

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//COMMENT: EDUCATION

School of thought

Brains Eden chair **Jeremy Cooke** calls for closer ties between academia and developers

Now six years old, the Brains Eden festival (above) invites students, academics and games developers from across the UK and Europe to get involved in game jams and workshops

SINCE THE HALCYON days of the BBC Acorn and the computer classroom, there has been a historic and systemic failure in the education system in that computer studies and computing skills dropped out of the curriculum. The UK did not build upon the lead in home computing and related programming skills provided by Cambridge notables Sir Clive Sinclair and Chris Curry in the home computing revolution.

The knock-on effect of this has been a decline in focus and undergraduate aspirational studies in computing-related skills and careers.

Computing is coming back into the school curriculum in September 2014 and government support for digital creativity is creaking slowly into action – although my view is that while tax credits are great, cultural justification is a 'little Britain' admin error. Now is the time to build bridges between academia and commercial creative development in games.

For far too long, UK graduate output has been unprepared for the games development workplace, lacking appropriate skills and failing the commercial production quality bar. High achieving graduates are more likely to be attracted to banking and law, so as an industry we need to do far more to integrate computer science working practices with undergraduate studies.
We need to demonstrate the dynamic and powerful nature of global digital delivery and look to academia to experiment with emerging technology and tools alongside pure academic research. We need students to be aware of what makes the difference between success and failure and how to survive in the most competitive global marketplace the world has ever seen.

CREATIVE THINKING

While middleware solutions are a great way to move the starting point for games development forward, an understanding of the core technology principles, layering and integration is essential to extend beyond what is currently possible. Middleware is great but is inherently limited by the focus of the core tech solution, as opposed to a project team intent upon extending their own creative vision, connectivity and technical underpinning.

> ***"The bottom line is that developers have to be focused on their own creative and commercial product in order to survive."***

Initiatives such as BUGS (Business & University Games Syndicate) provide online commercial access to student projects and are a great step forward in generating mutual commercial and academic benefit. Brains Eden puts game tech in the hands of students and provides game dev support in the same room over a weekend.

This is the beginning. We need to think in terms of active engagement and creative thinking – academe and commerce working together toward effective solutions to creative and technical delivery issues – toward longer-term mutual benefits.
A motivated, better prepared and better informed graduate makes for a stronger UK digital creative commercial community.

The UK is fortunate in that we have locally an absolute powerhouse of games development visionaries, most of whom are keen to pass on their knowledge and expertise and want to engage and enthuse the next generation of coders and creatives.

However, the bottom line is that games developers have to be focused on their own creative and commercial product delivery in order to survive. And so, academia, please understand that games developers' needs must be absorbed by project delivery and this causes time constraints. Games devs, we need to be looking up and we need the very best around us to compete effectively – thanks for your help.

Jeremy Cooke is chair of Brains Eden organiser Games Eden and director of developer Gameware Europe. Brains Eden will be held in Cambridge from July 4th to July 7th. **www.brainseden.net**

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DEVELOPMENT FEATURES, INTERVIEWS, ESSAYS & MORE

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Playing with **Fire**

Amazon has made a bold, but not surprising, move into the crowded games market with new microconsole Fire TV. **James Batchelor** investigates how the launch of this device reveals grander plans for games development from the online retail giant

AMAZON'S BIGGEST PUSH into video games development was one of the industry's worst kept secrets. Rumours spread for months that the retail giant was working on an Android console, driven by revelations of key hires and acquisitions, as well as leaked photos of a games controller.

This culminated with last month's not-so-surprise announcement and US launch of Fire TV: a device that offers games, music, movies and other entertainment straight to the TV for a one-off price of $99. It has been interpreted as an open challenge to everything from the high-end Apple TV to indie microconsole Ouya, but Amazon claims it is simply a response to a gap in the market.

"We saw a lot of companies selling millions and millions of devices like this, and customers like those devices for a lot of reasons, but there were also some pretty big gaps," Amazon's VP of games Mike Frazzini tells *Develop*. "We heard about those gaps partly from our customers, through customer reviews as well as our customer services team, and thought there was something special we could build."

So far, the move has worked out well. While sales figures have yet to be disclosed, Fire TV sold out within a week of its launch – the console-style games controller within a day – proving demand exists for such a device.

"That was not in any stretch by design," assures Frazzini. "Something we spend a lot of time on at Amazon is keeping inventory stocked for customers. Obviously it resonated really strongly with them. We're off to a great start and we're really happy with the reception so far."

It's not just customers' heads that Fire TV is turning: a surge of interest from a range of games developers has positioned the

Amazon's media centre-cum-microconsole (below) boasts a quad-core processor, 2GB of RAM, surround sound as well as voice recognition

Fire TV's dedicated game controller (right), sold separately, is said to double the number of games playable with the set-top box

The games themselves start from $0.99, and Amazon is investing in exclusives, such as Sev Zero (far right), to make its latest foray into games all the more attractive

device as a hot new platform in an increasingly varied market. This is due in no small part to the fact that Amazon brought the secret console to some of the world's most prominent studios long before it was ever announced.

"When we were first talking to developers, they would hear about the device and everything it offered, and they themselves wanted to buy it," Frazzini says. "It's great to see developers get excited about something you're working on and to have their games ready at launch. Having titles like Mojang's *Minecraft*, Telltale's *The Walking Dead*, Gameloft's *Asphalt 8* and games from EA, Ubisoft, 2K and Sega – we're really happy with the line-up we have for launch.

"And early feedback from customers is that they appreciated that the games we went and got are actually good and fun. That early reception and the launch titles have all been very positive. We're very happy with how things are starting for Fire TV."

A GAP IN THE MARKET

However, Fire TV isn't just about closer ties between Amazon and established games developers. Instead, it is a platform with which the firm can show off its own growing development prowess.

Amazon has been creating social and mobile games for a few years now, largely to help provide unique content for its Amazon App Store and Kindle Fire tablets. In February, its designs for larger-scale development were revealed when the firm acquired *Killer Instinct* dev Double Helix, and began recruiting other experienced game creators.

Frazzini claims that, like the launch of Fire TV, this is largely a response to gaps Amazon has indentified in the current market.

"Games development is going through a shift," he says. "You've got two ends of the spectrum at the moment: at one end you have teams of hundreds working for multiple years on a triple-A game, and at the other you have smaller projects like physics puzzlers or match-three titles.

"We see the growth of a middle area where you have teams of maybe six to thirty people that are working for 18 months on a game, and they're able to create these rich and immersive experiences that are just extremely fun to play and rich with creativity and character. That's the model of how we think about games development within our studios, and something we're seeing as a trend in the industry: companies like Telltale Games making titles like *The Walking Dead*, or your homegrown Fireproof Games – I think those guys are super talented."

Just days after the Fire TV announcement, it emerged that Amazon had hired familiar names like *Portal* creator Kim Swift and *Splinter Cell* designer Clint Hocking. But this duo is the tip of the talent iceberg.

"We've hired people that have worked on some of the best games ever released: *Thief*, *BioShock*, *Age of Empires*, *Half-Life*, *Left 4 Dead*, *Forza* – the list goes on," says Frazzini. "We actually have people on the team that had worked with Clint and Kim, who recommended them.

"We set out from the beginning to find the people we thought were super talented and embrace this model of development that we're pursuing, and, while not wholly unique, is different from the way a lot of companies think about development time frames, team sizes and so on. What we're finding is a lot of people who have worked on these bigger teams like the notion of being able to work in a smaller group over a shorter time, where they can have a lot of considerable impact on the direction and design of the game."

FROM SELLER TO STUDIO

And Amazon isn't finished yet. Back in March, job listings were spotted that called for developers experienced in Unity, CryEngine and Unreal, with credits on titles aimed at avid video games players. This is not a company looking to make another haven for *Flappy Bird* clones – Amazon plans to establish Fire TV as a platform with a much stronger appeal.

"We've been making games for a few years now, and it's really in the last year or so that we've dramatically increased our investment," says Frazzini. "That's what you're seeing in the acquisition of Double Helix, as well as some of the other folks we have brought on.

"It may seem obvious but I'm going to say it anyway – we want to make great games that customers love. We have a couple of different things we put into games development in terms of our approach.

"First and foremost is we're building titles specifically for our devices. So for Fire TV, we've been working for quite a while on *Sev Zero*. It's meant to not only be a fun game, but also show developers and customers the quality of content that can be played on this device."

Frazzini also cites the cloud infrastructure of Amazon Web Services as another point of difference. Already used by some studios, the firm is keen to expand AWS with techniques and functionality that is honed for making games on Fire TV.

"We've already got a prototype of a game that we've now put into full development where there are thousands of characters on the screen simultaneously interacting," says Frazzini by way of example. "The tremendous amount of physics and AI in this sort of game would require a high-end gaming PC, but we're running part of it in the Amazon cloud and part of it on the device. It's an interesting experience that we've always wanted to create but haven't been able to due to the limitations of the devices.

"As we build that technology, we'll also release it to third-party developers so they can use it in their games as well. And not just for Amazon – developers could use it to make games for any platform."

RECOMMENDED READING

Having pioneered recommended purchases to customers, Amazon is also looking at how it can help developers sell their games, as well as release them.

"We obviously want developers to be successful, so we invest in manual and automated merchandising through both Amazon and the device that aim to help customers discover the vast selection of games they might want to play," says Frazzini.

"Think of our books business: a massive catalogue where we aim to help customers find new books specifically interesting to them based on other books they've read. In a similar fashion, we try to do that with games. We want to help developers and the titles that they make reach the customers that would love to play them."

The reference to Amazon's books business really brings home how adventurous a leap it is making into games development. The firm is best known for selling other people's products, not manufacturing its own. And yet with the expansion into Kindle, Kindle Fire and now Fire TV, what was once a retailer is now looking more and more like a bona fide platform holder.

Frazzini says this is the natural evolution of Amazon, a by-product of its ongoing mission to give customers what they want. But the road to these new ventures is an unusual one.

"The first thing we do in any big strategy session or with any big idea that somebody has, is write a press release – before any code has been written, before any design work has been done," Frazzini says. "The point in this is to express directly, as though you were releasing that day, why customers should be interested in the service or the product we've built. It's a really interesting model of development that applies across all of our businesses.

> ***"We've hired people that have worked on some of the best games ever released: AoE, Forza, BioShock, Half-Life – the list goes on."***
>
> Mike Frazzini, Amazon

"Additionally, we organise our company in a way that all of our teams are thinking about customers in their own context. So as someone in games, I think about people who play them. It means we have invention going on all over the place in the company.

"Within games, we thought about Fire TV a long time ago largely as you see it in the launch. But we also have a photos business that thought about it in their own right, and other businesses too. We obviously all have common customers, but we think about experiences in the context that we operate in and try to come up with the most compelling experiences we can offer."

The result is a device that could live up to the concept of microconsoles, an avenue for Amazon to show the progress it's making in games development, and an intriguing new marketplace for games studios everywhere.

How central games development will be to Amazon's future remains to be seen, but with investment in Double Helix, Kim Swift, Clint Hocking and an unknown number of other devs, it's a safe bet that the retailer-turned-platform-holder has far more planned. ■

Fire TV went on sale in the US in April. UK and European release dates are to follow, but it's already been courting the likes of Minecraft developer Mojang, EA and Gameloft

THE MALADY OF MICROCONSOLES

IN LAST MONTH'S issue of *Develop*, Games Investor's Rick Gibson discussed the struggles past microconsoles have faced and cited Amazon as a potential candidate to turn this model around. But just how will the e-commerce firm avoid the same pitfalls as crowd-funded poster child Ouya?

"I think what Ouya did was super interesting, but I look at Fire TV as a totally different product," says Mike Frazzini, Amazon's VP of games. "We looked at it from a standpoint of watching videos, listening to music, viewing at your personal photos and home videos, playing games – we looked at each of those experiences and sought to make them best-in-class in their own right.

"So as I look at Fire TV, I see the totality of all this entertainment you get for $99. And when you consider other devices offered, there's just nothing out there that does so much. Apple TV certainly doesn't, and Smart TVs don't offer the same variety of games.

"One of the things we're excited about is spending all this time and energy focusing on what we thought were new experiences for customers that weren't available on other devices, and pulling that together in this tiny elegant little box that's only $99. It's built to play games that are a lot of fun and have a lot of character and creativity. It's obviously not going to play the games that push the envelope of the $400 to $500 consoles, but that's not the point."

Free-to-play's billions

Premium may still dominate PC gaming, particularly in the West, but F2P is gaining ground. **Craig Chapple** analyses the key data and asks the business model's biggest advocates about the future of free on desktops

SmileGate's F2P shooter CrossFire (main) brought in nearly $1bn in revenue last year, and Wargaming's Frederic Menou (top) and Nexon CEO Owen Mahoney (above) are confident the sector has an even brighter future

FREE-TO-PLAY has become the defacto standard in both the East and West on mobile, it's adopters topping the iOS and Android charts and spawning billion-dollar businesses.

Though not nearly as pre-eminent on PC, as you can see in the 2013 revenues handed to *Develop* by SuperData (*See boxout 'Top Dogs'*), F2P is still big business on desktops.

By itself, *Dungeon Fighter Online* brought in over $1bn for publishing giant Nexon last year, and it's a game that was first released in South Korea in August 2005, eventually landing in North America in 2010 and still proving popular today.

And it's not Nexon's only game in the top ten of revenue generators; its other titles *MapleStory*, *Counter-Strike Online*, *Sudden Attack*, *KartRider* and *Mabinogi* have all breached the top ten, all generating a multi-billion dollar business for the company.

Others such as Riot Games' *League of Legends*, SmileGate's *CrossFire*, Wargaming's *World of Tanks* and Valve's *Team Fortress 2* are also all raking in well over $100m a year, with SmileGate's shooter near the $1bn mark.

Even on Steam, where you'd think premium rules, Valve's *Dota 2* and *Team Fortress 2* are far and away the most played games on the store.

But what does it take to break into the free-to-play PC market, particularly when premium is still in abundance, and create a top hit? Nexon CEO Owen Mahoney tells *Develop* F2P games must be fun first and foremost.

> ***"You have to be careful not to consider the player as a milk cow. You should never force players to pay to enjoy your game."***
>
> Frederic Menou, Wargaming

"Like any other online game, to retain players over a period of years you have to keep building on the original experience with new content and new ways to enjoy the title," explains Mahoney.

"Monetisation and marketing are of course important, but the core thing to remember is: if the game isn't fun, you have no customers, and therefore no monetisation and no reason to market the game.

"For some reason, the games industry keeps forgetting this, especially in the last few years, and wants to focus on everything but making a fun game. We found that when we made that mistake, we fail. I would suspect that the rest of the industry has found that to be true as well."

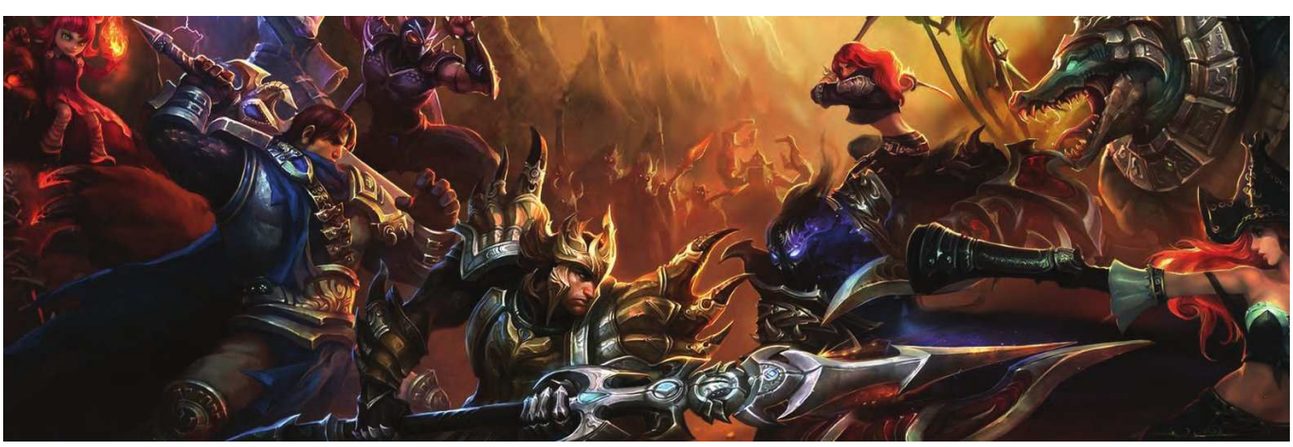
GO WEST

The model has a bad reputation in the West in particular, with key examples such as the infamous *Dungeon Keeper* further fuelling its critics, not to mention the introduction of the UK Office of Fair Trading's guidelines on how F2P should be governed. Eyes around the world are pinned on how developers creep into people's pockets.

And Mahoney says Nexon has witnessed reistance in Western countries, but blames large developers and publishers for creating such a negative reputation.

"Yes we are [noticing opposition in the West], mostly because so much of the free-to-play you see in the market – including the games from the big guys – has been done badly," he states.

"Doing F2P well, which means you retain users year after year, is actually really hard to



do. As an example, game balance in an online world is very different in free-to-play than in a package or subscription game and needs to be managed differently. Until Western developers learn how to do that better, you won't see so many strong F2P games in the West."

But the model is slowly becoming a hit with core gamers on PC in the West, with games such as *World of Tanks* developed in Europe and *League of Legends* built in the US. Proof of its growing popularity can be found in the revenues for these titles, which between them made $1.2bn in 2013.

LONG IN THE TAIL

One of the first things you may instantly notice from the data is the age of the games generating the most revenues. Unlike in premium, where most of a title's money is made during the release period, free-to-play titles hit their peak years, not just months, after release, making a long-term strategy crucial for titles in all genres, not just MMOs.

Wargaming EMEA and NA MD Frederic Menou explains that this is why servicing free games with new content for years after release is crucial for the model's success, as it gradually builds up a snowball of advocates spreading the word to their friends and keeps players engaged with new experiences.

"When you buy premium games, you know these are products with a high price and with content which will not evolve, or maybe only with the help of some DLC," he states.

"F2P games are another concept. When you play F2P titles you know the content will be updated regularly, from the day of release, and that the game won't be the same after a couple months. It's constantly changing. The community will also grow with time and will help the game to stay around. This is even more true if the game has some eSport potential."

SmileGate business strategy team manager Soogon Kim agrees that creating a close relationship with players is crucial, and explains another important factor to ensure users are enticed to play a game.

"Of the most critical success factors is definitely localisation strategy and understanding the target market and local users. This has helped us achieve market dominance in China on PC," says Kim.

"In addition, continuous communication between game users and publishers, prompt game maintenance, updates, patches and fun are all core factors that have led to *CrossFire's* success globally."

The data shows success of free-to-play titles cannot be accurately judged in the short-term – although obviously some of the examples shown are looked after by big publishers and able to move around their userbases – but not all of them.

BREAKING FREE

One of the concerns these stats do show is the difficulties of breaking into the sector in the first place. SuperData CEO Joost van Dreunen says the lack of new breakout titles in the space is down to the social nature of most PC games using the model.

"In a solo-play game experience, brand is everything. In multiplayer, it's all about the social environment," he explains.

"A tonne of small-scale, free-to-play titles exist out there with only a modest userbase that are sustainable. People like to play with their friends, and game quality or top-of-the-line graphics play a secondary part. This makes people resistant to move on to newer games, even if they look prettier."

Menou puts the lack of new titles down to the long tail, which suggests in a few years games that are new now will finally break in to the upper echelons of revenue generation.

"You need a certain amount of time before the monetisation, which is the key of any F2P business, reaches a 100 per cent efficiency. This is related with the F2P concept," he says.

"The game enriches itself with content, month after month, which gives more and more opportunities to have microtransactions which ensures monetisation. So you have to give time to F2P games to enter and stay in this chart. But you also have to be careful not to consider the player as a milk cow. You should never force players to pay to enjoy your game."

SLOWING GROWTH

One thing is clear for now however, the F2P PC market is starting to mature, at least in the East. As van Dreunen says: "the free-to-play market is huge, but not infinite".

2014 is set to be a slow year in terms of growth for free-to-play on PC, but it's still rising by $400m, picking up again in 2015 to reach an estimated $9.3bn.

Developers and publishers that we spoke to who are championing the business model said they were confident of continued strong growth in future, and Menou believes it will eventually become the standard on PC.

"The more time passes, the more I am convinced standalone games, as we know them today, will disappear. It's just a question of time," he states.

"Today players can have access to a game anytime, anywhere, thanks to mobile games, downloads, digital platforms and soon streaming. With F2P games they can play a game and test it without paying.

He adds: "And from a company perspective, it's healthier to have regular revenues rather than have a peak in the year with a premium release which has to sell very well in a couple weeks to make the company profitable." ■

Wargaming's World of Tanks (above) is said to have generated $474.93m in revenue last year, according to SuperData

TOP DOGS

RANK	TITLE	DEVELOPER	2013 REVENUE
1	**Dungeon Fighter Online**	*Nexon*	**$1323.23m**
2	**CrossFire**	*SmileGate*	**$956.66m**
3	**League of Legends**	*Tencent/Riot Games*	**$818.28m**
4	**World of Tanks**	*Wargaming*	**$474.93m**
5	**MapleStory**	*Nexon*	**$326.13m**
6	**Counter-Strike Online**	*Nexon*	**$224.96m**
7	**Team Fortress 2**	*Valve Corporation*	**$138.95m**
8	**Sudden Attack**	*Nexon*	**$138.22m**
9	**KartRider**	*Nexon*	**$96.53m**
10	**Mabinogi**	*Nexon*	**$71.47m**

THE FUTURE OF FREE

YEAR	WORLDWIDE REVENUE
2011	**$5,161,932,558**
2012	**$6,932,821,864**
2013	**$8,203,534,777**
2014e	**$8,652,582,933**
2015e	**$9,355,157,505**

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Rewriting the rules of QA

Games testing is a traditionally tough sector to be in, but in the face of new console, TV and mobile platforms, fresh processes and lingering preconceptions about quality assurance, perhaps tradition is holding studios back. **James Batchelor** asks the sector's leading experts how a new era of QA is forming for a new generation

Gaming IQ head of production Arran Oakes (top) and Testronic operations director Chris Rowley (bottom) discuss the hot topics in QA with Sega's Jim Woods and PKR's Stuart Pratt (main)

THOSE WHO ARE not involved in QA might think they understand it: it's the process in which games are tested for bugs and functionality so developers can fix any issues before or even after release.

Those who are involved know better. QA is not a necessary evil as some claim, but a vital process that can make or break a game and inform the development process about a lot more than just glitches.

During a roundtable discussion hosted by *Develop* and Testronic, experts in the field revealed the full potential of in-depth QA that some studios might not have embraced.

"It's not just about reporting hundreds of bugs, it's about digging into the metrics," says Stuart Pratt, delivery manager at online poker firm PKR. "You've got to see how many bugs you're finding on a daily basis and why you found so many in a certain piece of code – you can even determine how many builds you're going to need before release. This is all information QA knows and should be reporting back to executive producers."

However, Testronic's operations director Chris Rowley says that those above the executive producers aren't always willing to listen to these statistics: "QA's opinion will often be ignored because development teams tell corporate entities what they want to hear, which is that a game will hit its date. But if QA can show by its metrics that, no matter what velocity they're fixing bugs at, it's still going to be three weeks late, that's irrefutable."

> ***"I wouldn't rule out using QA as a stepping stone. There are good careers in QA but there aren't enough to sustain everyone."***
>
> Jim Woods, Sega West

One member of the roundtable reminisced about a time when the QA and development teams placed bets on how many bugs would be found in a game. Some scoffed at QA's estimate, double the dev team's and based on historical data from past entries in the series, but it ended up out by less than half a per cent.

The panel also said that QA is often overlooked when it comes to additional investment, either in training or facilities – something that Pratt says needs to change.

"Every other industry sees QA as a highly regarded profession and it's something that we're catching up on slowly," he says. "But I'm not seeing it as highly regarded as it is in other industries."

TIME FOR CHANGE

Arran Oakes, head of production at events firm Gaming IQ and part of the team behind the Game QA & Localisation Forum, says attitudes also need to change at the bottom as well as the top: "QA has typically been perceived is as little more than a stepping stone into other aspects of the games industry. One way to change that perception is by having better qualified people coming in, by raising the bar of entry to the field."

Sega West's director of development services Jim Woods agrees, but adds: "I wouldn't rule out using QA as that stepping stone. There are good careers in QA to have, but there aren't enough to sustain all of the people you bring in, so they have to move on

"This event was of huge benefit to me. I look forward to future events!" GREE
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to do something else, and they're acquiring skills that can be used elsewhere."

Part of the frustration around these QA preconceptions is that they aren't changing as fast as the market is. New platforms and business models have seen the process, and indeed the purpose of testing, evolve beyond its traditional definition.

"We're moving away from testing a piece of software that goes in a box, and more towards software-as-a-service," explains Rowley. "For firms like PKR, it's not just testing a game, but testing an infrastructure as well. That requires far more technically minded people than what we traditionally had five years ago."

Oakes adds: "The mobile industry and free-to-play model that came with it has played a very big role in the way that QA is evolving across the entire industry, irrespective of platform. The demographic of gamers has shifted and tolerance levels to quality have dropped significantly.

"I used to save up all my money for one Mega Drive game and, regardless of the quality, I would be invested in that. I put a surprising number of hours into *Shaq Fu*, because I'd saved up all year to get it. But nowadays, if there's something wrong in the first five minutes of a free mobile game, I uninstalled it and download something else.

"That's the age we now live in, and I think that means while QA may have been historically seen as a necessary evil, today it's much more of an immediate essential – particularly in the mobile arena where it's do or die."

The rapid growth of the mobile market is causing other problems for QA teams, particularly for smaller firms like PKR.

"There's been 139 new Android devices released this year alone, and there's no way we can buy every single device to test against," says Pratt. "And we can't just concentrate on the big companies like Samsung – now there are tablets from supermarkets, too. The Hudl from Tesco sold out over Christmas, so we couldn't get one and didn't know if our game worked or not until later. But what are we meant to do?"

Rowley agrees: "The fragmentation around Android is an absolute nightmare, and it's actually accelerating. We've always tried to focus on the top 20 or so of the most popular platforms, but that isn't consistent across different territories. It's worse than PC in some ways. And there's no interest from manufacturers to standardise across devices."

TESTING TIMES

Back in the traditional gaming space, some developers believe they have found a solution to the growing need for comprehensive QA in the form of public betas like Steam's Early Access. Many indies use this to gather feedback from early adopters, a process that was instrumental in the success of *Minecraft*, which was originally released as an alpha.

But Woods warns that few developers truly understand how to use this model effectively, pointing to two major issues.

"The first is that, even if you're putting it out as a beta product, there's still an expectation that it's going to work," he says. "The second is, even if you get it to an acceptable beta level and release it, how does that feedback loop work? How do you let the consumer tell you that there's an issue?

"You need that ongoing support to make sure all that feedback actually then gets put into a bug database that your developers can do something with. I think the whole alpha and beta release labelling is nonsense."

Oakes observes that some developers, like *Minecraft* creator Markus Persson, are able to release games in alpha because the audience understands that it's a project by just one man, and are therefore more forgiving.

Woods argues: "It depends on what the definition of an alpha is. A complete version of the game is not traditionally what an alpha was. With Sega, we've got very clear definitions of what an alpha, beta and release candidate should be based on

With the proliferation of so many potential game devices, it's becoming increasingly difficult for companies to test against all of them

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A valuable opportunity to discuss best practices and processes with other individuals in QA. I have no doubt that this will be the key event for QA within the games industry for years to come."
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Top-to-bottom: Sega West director of development services Jim Woods and PKR delivery manager Stuart Pratt

historical packaged products. But when it comes to games-as-a-service, you kind of rip up the rules and throw them away.

"I think what we've actually got to do is write new rules for what happens with games-as-a-service. That's what we're in the process of doing at the moment. And you've then got to get devs to buy into those new rules, because without that you lack structure, and without structure, you can't put proper processes around things and you end up releasing things that aren't ready."

Rowley agrees, adding that, by definition, beta testing serves two purposes: proving whether what you've built works correctly and consumers play it the way you expect them to, and stress testing your server base.

Oakes adds that Swedish games firm Paradox Interactive effectively uses a community of select players as beta testers, but with a crucial difference: "They were very open about that, and they had process: standardised forms and bug reports to be submitted by players. It was a process that, while not flawless, worked.

"Doing alpha and beta tests is not a chunk of your QA time. You should do your QA time and then put those out there to catch those unique things that, no matter how many hours of testing you throw at it, you just don't catch until real people get their hands on it."

AUTOMATONS

Another way in which the QA process is evolving is the advent of automated testing. PKR, in particular, uses it to ensure that its websites, registration, payment and withdrawal processes are working, quickly identifying any issues that will prevent players from using its service. It has been an expensive investment, but a worthwhile one.

"We can get tools and scripts to cover the work of 100 testers," says Pratt. "We can leave them running during the day, they cover all our websites, and we can have return on investment within about four weeks."

It's not just online firms like PKR. Microsoft and EA already use various forms of automation; in fact, in the case of the former, processes used from other areas of its software business have been introduced into its games division.

"That's the kind of thinking that's creeping into the games industry; we're not a completely unique environment," says Oakes. "Software is software and there are tools applied in other software verticals that could be incredibly valuable but for some reason the games industry doesn't know how to utilise them."

Woods agrees: "We as an industry are definitely behind the curve in terms of looking at that. The trick now is trying not to repeat everybody else's pitfalls."

However, there are misconceptions about automation. For one thing, it's not a direct replacement for traditional testing. Companies that invest in engineers might expect to see an immediate cut in black box testing given the cost of automation and engineers, but games still need to be tried out by human operators to guarantee players will be able to enjoy them.

PKR's Stuart Pratt argues that autmoated testing of certain processes has saved it lots of money on aspects of its poker games (above), arguing it could crossover into games, such as Steam Early Access hit DayZ (below)

Additionally, it requires a lot more communication between development and QA because the latter needs to prepare any automated processes for whatever devs can throw at it – something that becomes complex if QA is forced to update those processes.

> ***"No matter how many hours of testing you throw at it, you just don't catch some things until real people get their hands on it."***
>
> Arran Okaes, Gaming IQ

"You have to have buy-in from your development teams and they have to have the maturity of their processes to make sure that what you're writing for your test rigs are robust," Rowley explains. "If they either don't buy in or their own processes are so airy fairy they're changing all the time, all that happens is your test engineers are just updating their test suite and never actually doing anything else. You end up in a vicious circle."

TO QA OR NOT QA?

Some companies have found their own ways to have development, QA and automated testing work hand-in-hand. Pratt reveals PKR doesn't have a separate QA team, instead embedding testers and tools engineers within the development team.

But Woods warns it could be taken too far.

"We had a very in-depth discussion with a developer/publisher and they were very proud to tell us that a particular game they had released," he reminisces. "It was hugely popular on PC, and they said it had been developed with a very small team and no QA.

"When we inquired a bit more about how that worked, they told us the dev team just played it themselves and fixed the bugs when they found them. There were a number of Sega heads and I could see their eyes lighting up at the prospect of getting rid of QA.

"At that point, I felt that I had to point out that maybe this was the reason that said game had shipped about four years late and several million dollars over budget. Yes, you can develop games without QA but there is a big price to pay." ■

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On the case

With QA and localisation playing such an important role in games development on all platforms and for studios of all sizes, **Craig Chapple** asks those in the thick of it just what role they play in making sure games are bug-free

UNIVERSALLY SPEAKING

Game: *Archangel*
www.usspeaking.com

What is the name of the game for this case study and what platforms was it developed for?
Loreto Sanz Fueyo, localisation manager: *Archangel,* developed by Black Tower Studios and published by Unity. The game is available on Android and iOS platforms.

What stage of development were you brought in?
Compared to other mobile titles, we were brought in quite early in the development process, which allowed us to fully understand the project and objectives of the developer and publisher.

What services did you provide for the game?
We provided Unity Games with localisation, functionality QA, compatibility QA and localisation QA.

Is there a particular element of the QA and localisation process for the game that you were especially proud of?
The game was not the easiest of titles and cheats were not available. The testers assisted with highlighting particular areas of difficulty to remove these difficulty spikes, providing usability testing as an added value service.

Due to this, our team got very proficient at the game, which proved an advantage as a fast turnaround time was required, especially when playing through it on multiple devices.

How long and in-depth was the QA and localisation process?
The game was translated into ten languages including French, Italian, German, Spanish, Portuguese, Turkish, Russian, Japanese, Korean and Chinese. The localisation of the bulk of the text took three days, including the initial translation followed by proofreading.

Naturally, there were a few last minute pesky strings that had been hiding from the developers or that needed to be updated and returned really quickly to make sure they made it into the build. This happens often and our teams were on standby ready to support with any urgent translations.

We also provided Unity with four rounds of functionality testing on Android and five rounds of functionality testing on iOS. In this case, compatibility QA was integrated with the functionality testing.

In terms of process, the team went through the game on the lowest spec supported Apple and Android devices, and then verified any issues on the remaining devices. Once complete, the title was tested across all devices on a later level (more process heavy), to ensure the framerate and game itself was still playable on the relevant settings.

Lastly, after all the translated text was implemented a round of localisation testing was performed.

US UNIVERSALLY SPEAKING

SYNTHESIS

Game: *The Elder Scrolls V: Skyrim*
www.synthesis.co

What stage of development were you brought in?
Davide Solbiati, executive localisation director: We came in at a later stage of development, as is common in localisation. It makes perfect sense to forewarn your localisation provider that a project of this size is drawing near so you can staff up the team if needed and see how it could fit in your production schedule. This was done in time so we could prepare ourselves.

What services did you provide for the game?
For *Skyrim*, we provided the translation, the audio recordings and the localisation QA for French, Italian, German and Spanish.

Is there a particular element of the QA and localisation process for the game you were especially proud of?
There is no particular element I am proud of other than the fact the localisation process was carried out successfully. It was a major milestone for our client and for us as it was the first project of this size we did for Bethesda.

The game's predecessors had received very bad reviews in terms of localisation quality. The titles were very well-known for their bad localisation and our challenge was to show we could do it better which is not easy considering the sheer size and complexity of *Skyrim* itself and the *Elder Scrolls* universe in general.

How long and in-depth was the QA and localisation process?
Though we had preparation time upfront the actual production took us about six months, which is tough for a game like *Skyrim,* but doable.

First we started with the translation that needed to be 'married' with the game. You go into every single detail and think about how to transfer it best into your language and how your decision might affect later stages of the production. Due to the complexity of *The Elder Scrolls* we had external consultation by some experts who knew every single detail since the very start of the franchise.

Then audio recordings started. First it's mainly about finding the best casting match – which actor do you think can transport the quality of a character best and so on. Later, during recordings, you again go very deep into the story and although you can get a lot from the English audios and the reference materials, being able to contact the translation guys about something you are not quite sure of is an advantage.

Why is it important developers use QA and localisation services for a game like this?
You need an experienced team when localising an RPG with 600,000-plus audio words and 1m-plus text for several languages.

SYNTHESIS

"There are not many game localization related events – thank you for providing us with opportunity to meet other localization professionals!"
NEXON
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LOCALIZE DIRECT

Game: *Strike Suit Zero*
www.localizedirect.com

What stage of development were you brought in?
Michael Souto, business development director: We were brought in around alpha time to ensure that all strings were being tracked. The Born Ready guys were keen to ensure that strings were set up correctly in preparation for the eventual push into translation.

What services did you provide for the game?
We helped the developer set up a smart loc asset pipeline and then localised their content for the game. We localised into French, Italian, German and Spanish, although additional text for metadata was provided in a number of other languages. This text was all managed and delivered through our loc management system "LocDirect".

Is there a particular element of the QA and localisation process for the game that you were especially proud of?
We're particularly pleased with the way in which the strings were managed. Source text was created and altered up to the point at which the first phase text was ready for translation. At which point translators were able to access and translate.

Any questions the translators had were also entered into LocDirect which meant that all the data was at hand at any time – and the translators could view each other's queries and amend their text if needed. It also meant there were no offline files with questions or last minute strings in excel files.

How long and in-depth was the QA and localisation process?
Strike Suit Zero is now approximately 31,500 words. It was smaller to start with but grew over time as the game continued through development and the addition of DLC.

After the first phase translation there was additional text and a number of alterations to existing text. As we used LocDirect we were able to simply track which strings had changed – and what the changes were per string. This makes the translator work far simpler to manage. It also provided the Born Ready guys with real visibility on what work needed to be done.

Regarding the length of time, it continues to grow. Further DLC and additional content means the database is always live and continually evolving.

Why is it important developers use QA and localisation services for a game like this?
Developers should ideally use a professional translation service to push their game into other markets. Yes, there are many English speaking people in many countries. However, if you really want to make your mark locally then you need to localise.

It's also always recommended that developers budget for a QA pass. Not just on the gameplay itself but also the localisation. The translation quality should really be fine but the translators may not have first-hand knowledge of the game itself. Certain strings may also lack context leading to incorrect translations and player confusion later on. Also, overlongs should be caught and fixed. They are extremely ugly and disrupt the user experience.

LOCALIZE DIRECT

ONESKY

Game: *OMG: TD*
www.oneskyapp.com

What stage of development were you brought in?
Amanda Wong, marketing director: We started working with Yodo1 after they launched their first English version and decided to go global. We have been working with them closely until now to manage updates.

What services did you provide for the game?
We helped to translate their iTunes and Google Play app descriptions, in-game text and provided an on-device testing service to make sure all translations and layouts look good before launching.

OneSky provides all-in-one localization solutions that save devs time while boosting translation quality.

We support more than 30-plus file formats. So instead of having to extract the text into excels file themselves, the *OMG: TD* team simply needed to send us their XML file and our system could automatically parse the file and extract the text for them. When the translations were done, they could download a ready-to-use resource file format as well, saving tonnes of file format conversation time.

Our platform also provides a wide range of quality assurance features such as placeholder validation, length limit validation, glossary functions, in-context translation, translation memory, etcetera, to make sure *OMG: TD* can receive a high quality translation from us.

Is there a particular element of the QA and localisation process for the game that you were especially proud of?
At OneSky, we have a team of professional translators who specialise in translating games. Most of them are experienced gamers as well so they are capable of providing creative translations that can captivate gamers, especially for things like character and item names, dialogues, etcetera.

How long and in-depth was the QA and localisation process?
It took roughly one month to go through the whole translation and testing process for the initial launch. Our testers have gone through all the missions in the game.

After the initial launch, we continued to help the *OMG: TD* team handle translations on any updates.

Managing updates is really easy on OneSky. The *OMG: TD* team simply needs to send us the updated XML file and our system can automatically detect which strings are new. This saves a lot of manual handling time especially for a game that is constantly updating and improving.

To ensure consistency between updates, we have dedicated translators for *OMG: TD* so all the updates are handled by the same translators who really understand the game.

Why is it important developers use QA and localisation services for a game like this?
On-device testing is particularly important for games because sometimes you can only tell if the translation runs smoothly if you are actually playing the game in real. On-device testing can also help to spot layout and spacing issues that can have great impact on your game.

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Is automation really the future of game QA?

Automation has been heralded as one of the greatest leaps forward in QA, but is it really all it's cracked up to be?

Automation can leave time for testers to tackle more complex matters, leaving the repetitive and boring 'kill 1,000 enemies with a toothpick' tasks to the tools

FOR GAME QA, automation generally means more confidence in a build's status earlier, and significant time – and frustration – saved on extremely repetitive tasks.

Whether applied to general testing or specific cases, if dev teams can work with QA to write unit tests in the initial stages, it can save QA from having to run into regressions on builds. The more upfront automation you have on the builds before they hit QA, the more time the teams can spend finding bugs proactively and using different approaches.

REDUCING REPETITIVE TESTING

By running tests in parallel, a test lead can understand which areas of a test case are generating the most fails on a particular build. This information can be used to direct manual testing, and avoid time expended on testing incomplete features on a build. Sony is using automated tests to ensure that their manual test teams are freed up to be more effective – ideally using the automation tools to wrap up a lot of the tedious or costly test cases.

No more tying up the whole test team on smoke-testing multiplayer builds, herding bored testers towards headshots or tasks along the lines of 'kill 1,000 enemies with a toothpick'. In the case of multiplayer load testing, it's not uncommon to have automated kits spend 700-plus hours running in-game tests, increasing the chance that low frequency issues will be detected much faster. As an added bonus, the automated kits also generate their own debug information, video capture, automatic core file linking and translation and developer trace.

With so many potential advantages for QA, it may seem surprising that automation has only recently started gaining momentum for all but the largest developers and publishers. There are several common reasons for this: financial, technical and, often the most difficult to overcome, cultural.

FINANCIAL CHALLENGES

Automation is not cheap. Doing it on any significant scale requires investment in software, potentially hardware, and almost certainly skilled people. The latter is often the most challenging, as people versed in the art of automation are hard to come by. That said, it would be well worth setting your best developers and system architects to work on test automation frameworks now.

TECHNICAL LIMITATIONS

Technically, feature or design changes tend to be prevalent with some studios, so you'd need to ensure that your frameworks are as adaptable and modular as possible. This enables you to update a test suite as quickly as possible when design changes occur. Additionally, actually doing higher level automation and getting it to run reliably – let alone with consistent results – is not easy.

THE AUTHORS

From left-to-right: *Gaming IQ's Arran Oakes, SCEE's Nathan Barguss and Unity's Thomas Petersen*

As with any significant investment of time or money, buy-in from senior stakeholders and the wider production teams is required. It is not uncommon to see pushback until you can demonstrate tangible results.

THE CULTURE BARRIER

At the end of the day though, no automation framework is as adaptable as a real tester, so it usually requires substantial buy-in from development teams.

The earlier you can start working with a specific team, the better the results you'll likely see. With each success you gain traction to change the culture. In some cases, Sony is working with developers to design in-test frameworks before development even starts.

Try to resist the temptation to start on only high-level integration tests such as UI or screenshot comparisons. These may be conceptually easy to understand and author, but they are also very fragile and not easily scalable. This could hold you back while you just lose time and money on maintenance.

A WORLD OF BENEFITS

Nevertheless, the potential benefits of automation are huge. For example, Unity's ability to develop and release across so many platforms is almost solely attributable to automation. It enables them to more easily verify features across 15 to 20 platforms with a massive number of test cases run on every single commit.

Quite simply, automation is the latest, and potentially greatest, tool in the QA arsenal. Any mid-sized developer would be well advised to invest time in it as soon as possible. *Automation will be heavily discussed at this year's Game QA & Localisation Forum in London on June 24th to 26th 2014, complete with dedicated automation workshops by Microsoft and Unity. For more information on the event and tickets visit* **www.gameqaloc.com/europe** ■

Success: it's anyone's game

For any studio, discoverability can make the difference between a best-selling smash hit and a neglected title that fails to recover its costs. Fortunately, Microsoft is running a competition that will help developers bring their title to an audience of millions

Read on to find out how with Power Up: The Beautiful Game

Anyone can make a game these days, but it takes hard work, time, effort and no small amount of luck to sell one. The games industry is growing so much, with studios of all sizes emerging everywhere, that it can be tough making your voice heard over all the other noise and putting your title in front of the audience that will help make it a best-seller.

Finding the best opportunities is half the battle, and Microsoft has created one that could benefit studios of any size or age.

The firm is working with a variety of supporting games industry partners to provide developers with a good chance of getting their game into the hands of millions of players through the Power Up: The Beautiful Game competition.

The contest is centred around getting games discovered and downloaded, primarily through both the Windows 8 Store and the Windows Phone Store, with the overall objective to grow the UK games industry by giving recognition and aid to studios and developers of all sizes.

Power Up: The Beautiful Game is now open to enter – head to **beautifulgamecomp.com** before June 20th, 2014 and fill in the registration form to get started.

The competition is open to all UK games developers who port or publish new or existing titles to Microsoft Windows 8 and/or Windows Phone Stores.

Crucially, opening the competition to studios of all sizes levels the playing field significantly for UK developers. It doesn't mean indies and smaller developers will be struggling against big players with hundreds of experienced employees and an abundance of time and resources – anyone can win The Beautiful Game.

Even if you don't win, simply entering and releasing your game on the Windows 8 and Windows Phone Stores could help get your games discovered and downloaded by an audience of millions. In fact, every download adds to your chances of winning. Downloads are counted separately for Windows 8 and Windows Phone, so releasing your game on both gives you an even better chance of winning.

There's even a range of fantastic prizes up for grabs that will be dished out to the studios behind the 20 most successful games. Prizes range from Nokia Lumia smartphones and Unity Pro seats to mentoring from industry veterans and courses by the Chartered Institute of Marketing. The best entrants will even be invited to an awards ceremony at Dolby's prestigious theatre in Soho Square, London.

Over the next few pages, you'll discover more about how you can benefit from entering The Beautiful Game and showcasing your work to a much wider audience, as well as how you can put your game in the hands of that all-important audience, ranging from hundreds of thousands to millions of players.

You'll also find examples of the wide variety of studios entering the contest and why they think they can take on the big players, and learn more about the leading industry organisations that are supporting this initiative.

Microsoft

Who can enter?

Did you think The Beautiful Game is only open to triple-A behemoths with years of experience and dozens of hit games under their belt? Think again – anyone can enter and, crucially, anyone can win. Check out the competition so far

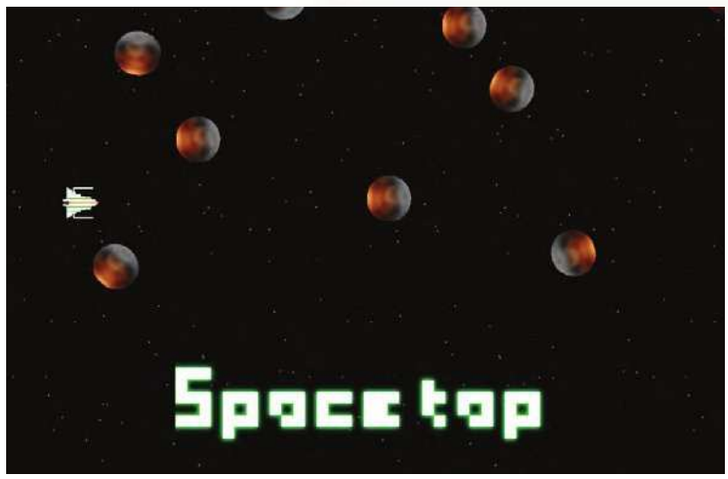
FIONA STEWART, FORMERDROID

Why have you entered The Beautiful Game?
Games are an art form. People tend to forget that. From the sounds to visuals and animations, we have consciously made our games as artistic as we can. We are hopeful that the Beautiful Game competition will highlight the importance of creating a "whole" gameplay experience for users.

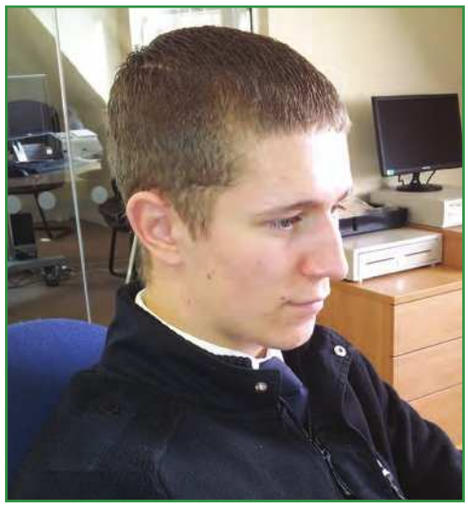
Can you compete with larger studios?
Yes. We have a quality, fun game and even though it was made on a small budget, we have not compromised on quality. We have given 110 per cent on it. We can but try! We are artists and believe in producing games that will be of a very high standard. We work hard and with passion on our games for people to enjoy.

What will winning The Beautiful Game mean for you and your future?
It would mean a lot to us as a new studio with our first title, giving us recognition and confidence that we can make beautiful games that people enjoy. This would be amazing for us!

Formerdroid's Fiona Stewart has entered mobile game Splemy into the contest



Spacetap is one-man studio Charlie Stuart's entry in Power Up: The Beautiful Game



CHARLIE STUART

I have entered The Beautiful Game because I believe, as an indie developer, it is the perfect platform to gain some recognition for the work I have already done. I also believe it is an opportunity to see what other developers, like myself, are currently working on to get some ideas for future projects, or maybe to even make some valuable contacts for the future.

Although I believe larger games studios may have advantages over individuals in some cases, I still believe my game has a good chance of winning. This is because with larger teams, sometimes games studios have too many ideas to take on board, and their game can lose that simplistic feel which makes games a joy to play. With me being an independent developer this means I only have to implement my own ideas, allowing the game to continue to be simplistic to ensure the player remains engaged.

Winning the competition would allow me to gain a reputation as an indie developer, which I think is important in today's market due to the high number of developers like myself trying to break through.

Microsoft

Help is at hand

The Beautiful Game competition is just one way in which Microsoft and its partners are helping indies and smaller studios get their games and talent discovered. Read on for more examples of how these firms and organisations lend a helping hand to the industry's newest developers

TIGA™
Representing the Games Industry

TIGA's research shows that a significant proportion of UK games businesses are less than four years old, so whatever helps these new businesses will be of maximum long-term benefit for the whole industry. We want as many of today's start-ups and indie studios as possible to be the success stories of tomorrow, so it is imperative to support them. This way we can help to build a healthy UK video games ecosystem from the grass-roots up.

Helping smaller studios is vital to TIGA and is in fact one of the key reasons why TIGA was originally set up back in 2001. As the organisation has grown over the past decade our remit has broadened somewhat, but our board is still 70 per cent made up of developers and digital publishers of all sizes. Some of our board members run 400-strong studios or more, while others run two person studios. Size doesn't matter, everyone has a voice.

Richard Wilson, TIGA

ukie
THE ASSOCIATION FOR UK INTERACTIVE ENTERTAINMENT

It is important to build the most robust ecosystem for our industry as possible. A rich ecosystem with support in place builds sustainable businesses, and not only attracts inward investors, but also helps existing businesses find studios and talented people they want to work with. Our industry will only become sustainable if we look after the whole breadth of the industry, no matter what stage you are at – which includes skilling up the workforce from eight to 80.

We help businesses of all sizes. A lot of practical help we give smaller studios is through introductions to our network. These might be to investors, to publishers or to other studios and experts who can offer advice and other services. Every member gets an hour of free legal advice, for instance. All our knowledge and networking events around the UK are free to members, and we give people discounts on essential tools for their games businesses.

Jo Twist, Ukie

unity

Indies and small teams make up the majority of people actively making games today. These teams can be a mixture of industry vets who have decided – either by choice or by necessity – to set up their own shops, or newcomers fresh to the industry. Indies provide a wealth of creativity and innovation in games but often lack the resources or experience in the process of making and shipping games available to larger teams.

The Unity Asset Store is one example where we provide and host a marketplace for developers of all sizes to sell their own tools, models and assets to other Unity users. This helps provide content to speed up development for teams where resources are limited, as well as providing an additional revenue stream for talented developers and artists.

Andy Brammall, Unity

GAMESPARKS

GameSparks is a proposition designed for the indies – we have the interests of the indies at our core. Most people who build games do so because they love it. They combine a healthy mix of creativity and software engineering to deliver entertainment.

Their goals are more aligned to building great games rather than making lots of money – the holy grail is if they can accomplish both. At its heart, this is an extremely creative industry and the indies are the embodiment of this. The indies are the ones who constantly push the creative boundaries and evolve the industry.

Our goal is to help these guys keep creating great games and to help them be more successful by equipping them with enterprise grade tools – like the larger studios use – and in that way contribute to the ongoing evolution of the games business.

John Griffin, GameSparks

Other industry partners

NOKIA DOLBY The Chartered Institute of Marketing TRAIN2GAME Microsoft

Behind the Beautiful Game

Microsoft's marketing director of audience acquisition Andrew Webber reveals the origins of Power Up: The Beautiful Game and the full benefits available to any games developers who enter – even if they don't become one of the 20 finalists.

Why have you created Power Up: The Beautiful Game?
We wanted to find a way to encourage games developers and studios of all sizes to port or publish new games on the Windows and/or Windows Phone Stores, and experience for themselves the opportunities to be discovered, downloaded and played.

In addition, we wanted to work with industry partners to bring their expertise and materials to help the devs plan their marketing campaign for their games, get free Unity Pro licences (subject to terms) and download other useful materials.

What opportunities does it give to indies and small devs that they otherwise wouldn't have?
All games submitted are judged by our industry partners so there will be immediate visibility for them to these leading organisations. The score your game secures will be, in part, determined by the quality, so all studios will get some indication of their title's excellence versus others entered. Finally, there is a one-in-20 chance of winning some great prizes with a total prize package in excess of £30,000. The top 20 winners will also be invited to a special mentoring event with games industry veterans drawn from the boards of TIGA and UKIE.

Surely larger, more established studios have a better chance of winning The Beautiful Game?
Not at all. All games apps submitted are judged on the quality of the audio, visuals and gameplay, as well as the number of downloads secured. This means that the judges can make decisions based on the game in its own right.

Even if a games developer does not make the 20 finalists, they will have had their title seen by a number of industry judges and will experience the discoverability and opportunities that publishing on Windows and Windows Phone Stores gives them. We also run a programme called BizSpark, which offers small start-ups three years of free software, support and visibility. As long as you are privately owned, turn over less than $1m and have a studio website/email, then apply online and expect a decision a few days later.
You can find more details at ***www.microsoft.com/bizspark***

How it works

To enter Power Up: The Beautiful Game, simply head over to **www.beautifulgamecomp.com** and follow the registration instructions.

Once you're set up and the game is available on the Windows and/or Windows Phone Stores, there are points to be earned that will increase your chances of winning the competition.

First of all, the game will be rewarded for quality in three categories: audio execution, visual execution and gameplay. Titles will be awarded up to 40 points in each category, with an extra 40 points available to studios that complete a one-page marketing plan. You can download the template from the site.

Perhaps the best way to earn points is by racking up downloads. Games with more than 100 downloads will receive 20 points. Up to 10,000 downloads nets you 40 points and more than that earns 50 points.

To fully evaluate a game's popularity and the effectiveness of its marketing, downloads count separately for both the Windows and Windows Phone Stores. So getting 10,000-plus downloads on each store will earn 100 points.

The 20 studios with the most points will take home prizes ranging from Nokia Lumia smartphones to Unity Pro Licences. There's even a holiday in Slovakia up for grabs.

Microsoft

#DEVELOPJOBS

Your monthly guide to the best career opportunities in games development worldwide

Creative Assembly hires Tim Regel p36

Find out what it's like to work at Mind Candy p38

A fly-on-the-wall look inside Double Fine p36

NaturalMotion has worked on dozens of titles. And Torsten Reil (in-set) is looking to tackle more

NaturalMotion begins hiring spree

CEO Torsten Reil says the tool maker and games studio wants to recruit a 'sizeable' number of staff as it aims to create 'something truly amazing' on mobile platforms

by Aaron Lee

NATURALMOTION HAS BEGUN a "sizeable" recruitment drive intended to help the studio expand its offering of console-quality mobile games.

The games and tool maker is hiring for numerous positions at varying levels, ranging from game design to producers and product leads for its Oxford, London and Brighton studios, CEO Torsten Reil told *Develop*.

"We are attempting to create console-quality games on mobile that go way beyond what people have seen before. For that we need to have the best people in the industry," Reil said.

"We're looking to grow our teams with designers, programmers and project managers in order to achieve those goals. But we're also looking to fill some of the gaps we have in our teams, some of which are already fully functional, but some of them aren't yet."

NaturalMotion is best known for its animation middleware Euphoria and Morpheme, which have been in used in the likes of *GTA IV* and *BioShock Infinite* respectively. Its in-house development teams have created successful mobile hits such as *My Horse*, *Clumsy Ninja* and *CSR Racing*.

While its middleware is built to handle the demands of console game development, Reil says its team sizes are unusually slim by comparison.

> ***"We try to push the boundaries all the time. There's a sense of purpose working here."***
> Torsten Reil, NaturalMotion

"Our team sizes are quite small compared to a console studio, usually 20 to 25 people. But the output is quality high-end, so we need to have the best people to achieve that."

Reil said the reason devs should choose to work at NaturalMotion is because "we have ambition".

He explained: "We try to do something truly amazing. And hopefully people can see than in our games – it's not lip service.

"We really try to push the boundaries all the time. And that means that, working here, there's a sense of purpose. This not a job just to earn money or to make a few nice games. This is a job to move millions and millions of people. And that is what drives us. And if we find people or talent who are hungry and who want to do that, I think it's a great combination."

In addition to display and online advertising, the UK developer also visits game events and hosts some of its own, such as one recently held for data scientists, where attendees gave talks and shared knowledge.

The studio, which currently employs more than 200 staff, is headquartered in Oxford and has studios in London, Brighton and San Francisco. It was acquired earlier this year by social game maker Zynga for £317m ($527m). ■

www.naturalmotion.com

MOVERS AND SHAKERS

This month: Creative Assembly, Oculus VR, nDreams, Marmalade and ERG

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Video Games Recruitment

CREATIVE ASSEMBLY GETS REGEL

CREATIVE ASSEMBLY ■ **TIM REGEL** has joined *Alien: Isolation* studio Creative Assembly as its new development director.

The Guildford studio's development directors provide the driving force for the project teams, encouraging them to make games, while delivering leadership throughout the studio. In his new role, Regel will work on multiple projects, including its flagship *Total War* series, and be expected to take on board what drives and motivates the teams.

Regel has previously worked for Electronic Arts as a development director and producer at its Vancouver and Guildford studios.

Described as having an excellent background and thorough knowledge of games development by his new employer, Regel is expected to take its titles, such as the upcoming *Total War: Arena*, "to the next level".

"I'm chuffed to be joining such a smart, talented and friendly team at an exciting time in the evolution of Creative Assembly and the *Total War* franchise," Regel told *Develop*.

Tim Heaton, studio director at Creative Assembly, added: "It's wonderful to welcome another Tim to Creative Assembly, and one who brings a such a depth of knowledge and experience."

As well as spending more then ten years in the games industry, working on titles such as *Need for Speed*, *FIFA* and the *NHL* series, Regel has also worked in other technology roles at firms such as Nomura Securities, Lloyds Bank and British Telecom.

Tim Regel (above) previously worked at EA

OCULUS VR ■ Virtual reality specialist Oculus VR has hired **CALLUM UNDERWOOD** as its developer relations manager for Europe.

Underwood acts as the primary contact for all games companies within Europe that are building content for virtual reality.

"Ever since seeing the Kickstarter, it's been my dream to work for Oculus VR. Working at a company that brings such a passionate group of people together was not an opportunity I was going to pass up," he told *Develop*.

Underwood previously worked at Intel as a global account manager, mainly working with EMEA game devs.

NDREAMS ■ Former Sega CEO **MIKE HAYES** has joined the board of UK virtual reality game developer nDreams.

The appointment comes as investment firm Mercia Fund Management, which Hayes is an advisor for, pumped £250,000 into the studio to support development of its VR tech recruitment drive.

"Patrick and his team have shrewdly identified the emerging VR technology as the next exciting innovation," said Hayes. "nDreams are well placed to provide innovative software for the new headsets and have the opportunity to be a major player in this new market."

MARMALADE ■ Cross-platform tools developer Marmalade has appointed **RYAN GILMOUR** as its product manager for the firm's flagship product, the Marmalade SDK.

Gilmour's interest in gaming and tech dates back to the Sinclair ZX Spectrum and he has over 15 years experience in the industry.

"It's an incredibly exciting time to be part of the games industry, as more and more platforms and markets emerge," said Gilmour. "Marmalade has some truly innovative tech that makes it easier than ever for organisations of all sizes to bring their creations to the largest device- and userbase possible."

ENGINE ROOM GAMES ■ Technology house Engine Room Games has appointed **ALEX TYRER** as a new principal software engineer.

Alex joins ERG with 20 years of industry experience, the last 13 of which he spent at Codemasters, within its Central Technology Department and Racing Studio, working on projects such as *Colin McRae* and *Dirt*.

His new role will involve working on all aspects of multiplatform production.

Alex McLean, director at ERG, said: "We are delighted to have Alex join us. We have set about hiring only the very best-of-the-best games development people in the five years."

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THIS IS WHERE WE WORK

Opening the doors to studios around the world

Double Fine

San Francisco, California, USA
www.doublefine.com

Double Fine was founded by *Psychonauts* creator and funny man Tim Schafer. Some 65 staff at the studio put together bizarre, yet delightful, games about trick or treating, robot wars and more.

Photography: Kristen Russell

RECRUITER HOT SEAT

Hamburg outfit Goodgame Studios is recruiting hundreds of staff. **Tanja Schmidt** explains why you should join in

BIO
Name: Tanja Schmidt
Title: Lead Recruiter
Developer: Goodgame Studios
Country: Germany
www.goodgamestudios.com

> ***"By 2020, we want to be one of the top 20 highest-grossing gaming companies in the world."***
> Tanja Schmidt, Goodgame Studios

What differentiates Goodgame from other developers?
We're working together with a passion to build one of the most successful gaming companies and we're planning for the long-term future. By 2020, we want to be one of the top 20 highest-grossing gaming companies in the world, and we're offering a workplace where you can be part of this project. In addition, we make the strategic decisions – not investors. We will remain a private company, meaning we can enjoy the luxury of implementing our own ideas. Together we're creating something big, developing games in-house, and growing sustainably.

How many staff are you currently looking to take on?
We're always looking for talented professionals as we keep growing. Even though we currently have more than 100 job postings, we really focus on getting people that are experienced and fit within our plan and within the team. Above all, we're looking for new employees in IT and online marketing, but we have positions to be filled in almost every department. It's definitely worth taking a look at our website.

At the moment we're at 800 employees, and we're aiming to recruit another 400 by the end of the year. Our growth in 2013 shows that these targets aren't unrealistic: we more than doubled our workforce from just under 300 to over 650.

What perks are available to those working at the studio?
Thanks to our flat hierarchies, every employee has the opportunity to take on responsibility and determine their own career path. Key requirements include a keen desire to learn and to achieve something as a team. We offer internal workshops, reference books and journals, and online workshops for our employees as well as opportunities for further training. There are many opportunities open to our employees who show initiative and commitment – for example, your job can also be used to complete co-op courses. Every kind of further education is, of course, sponsored by Goodgame Studios.

What should aspiring developers do with their CV?
We're not just looking for highly qualified people with impressive CVs. As well as hard skills, soft skills are often decisive, because teamwork is the only way at Goodgame Studios, and the chemistry has to be there. We can only achieve our ambitious target together, and with over 5,000 applications per month, only the best make it onto the team. All the components have to be just right.

Who is the best interviewee you have ever had?
We had an illustrator who was a big fan of *Goodgame Empire* – not only did she know the game inside out, but she also had really got to grips with the artistic style of the game. Both myself and our lead vector artist – who originally developed the style – were impressed by her knowledge. She was also already well-informed about what kind of visa she would need to work in Germany as a Serbian. It was just fantastic how well prepared she was. We were amazed by her.

What advice would you give jobseekers for getting an interview?
It's very disappointing when an applicant has great technical skills and very good social skills, but lacks basic knowledge of the company they're applying to. It's a simple task but undeniably important.

We've had candidates who couldn't name a single one of our games. That's really disappointing and definitely a deal-breaker.

Research the company thoroughly. This will allow you to shine during an interview. Asking questions – to show enthusiasm – a firm handshake, and eye contact with the recruiter are obvious gestures, which are often neglected but too important to be swept under the rug. Also, make sure to have a simple and well-structured portfolio. This will make it easier for recruiters to quickly see the most important work. Remember that a portfolio reflects you and will help to sell yourself. A professional portfolio is your golden ticket to job interviews.

If Goodgame has recruited talent internationally, what was the process like?
We recruit talent from all over the world, making us one of the most international game studios. Goodgame Studios provides an 'onboarding' service for international employees which makes sure that our international colleagues have a smooth transition into the new culture and environment.

The support ranges from finding accommodation to getting to grips with bureaucratic documents, i.e. opening a bank account, filling out government forms. Non-EU nationals who apply for jobs should request a so-called Blue Card – an approved EU-wide work permit – ahead of time. It can take between two to three months for a Blue Card to be issued.

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GET THAT JOB

Development specialists offer advice on how you can bag that career leap

THIS MONTH: PRODUCER

TEAM17'S DAVID WOOD discusses the key skills needed for his role in production at the *Worms* studio.

What is your job role?
I'm a producer at Team17. I'm responsible for delivering internal projects on time, in full and within budget. I support the teams throughout development, managing the day-to-day processes on the projects and ensure that the projects are meeting their goals.

How would someone become a games producer?
Building real world experience working in a team environment on a game development project is vital. Do whatever you can to get yourself into a position where you can get experience.

Traditionally, the first step in the production department would be an assistant producer role. As you develop your skills and demonstrate your aptitude for the role, you'll be given more responsibility, including your own projects to manage.

It's clichéd, but QA is a great place to start. All of our current production staff started in the QA department.

> ***"It's clichéd, but QA is a great place to start. All of our current production staff started in QA."***
> David Wood, Team17

What do you look for when recruiting a new producer?
We are looking for someone who is able to demonstrate a strong understanding of the games development process and show a clear aptitude for dealing with people in a team environment.

We would expect to see some knowledge of project management processes and how they pertain to games development. A healthy dose of initiative is also valued, as we want to see candidates who will actively engage in the role, bringing new ideas to the table.

Why choose to follow a career in your field?
It's an amazing feeling being part of a team of incredibly talented people creating a product that will bring fun and enjoyment to so many people. Watching everything come together is really exciting, and the nature of the role means you continue to develop professionally and personally.
www.team17.com

If you've got job advice to share, email **Aaron.Lee@intentmedia.co.uk**

Employee HOT SEAT

Mind Candy's **Tim Bennett** on what makes the Moshi Monsters studio in London a terrific place to work

What do you do at your studio?
On my team we build shared services for all of our product teams to use, so they are free to concentrate on creating awesome games. We provide a common user identity service, an A/B testing platform, eventing service, push-notifications and leaderboards. It is a great team to work in as we get to tackle complex and exciting problems that benefit every game the company makes.

How did you get your current job?
I went to Silicon Milkroundabout a couple of times, which is a jobs fair focused on start-ups. Mind Candy stood out from the others to me as I was aware of what they were doing with *Moshi Monsters*, but it wasn't until I went a third time that I was actively looking for a new role. I handed in my CV and then sent a follow-up email later with the subject 'Looking for an awesome job'. I was sent a coding test and from that I was invited in for an interview. By the next Milkroundabout I was representing Mind Candy on the stand.

What perks are available to those working at the studio?
There are a whole range of perks for everyone, ranging from free snacks and breakfast (which is great for me as I struggle to eat at home after I've just woken up), to conference visits and a sports allowance that I use for swimming and running. And every Friday we get to enjoy Beer O'Clock and wind down the week over some drinks and games.

Name: Tim Bennett
Title: Senior Data Engineer
Developer: Mind Candy
www.mindcandy.com

What is the recruitment process like at your studio?
On the tech side, a candidate can expect a technical phone screening and if it goes well, an invite into our office to meet us.

Typically, they will go into a room with a couple of couches and a whiteboard wall and be asked to sketch out a few solutions to some technical problems and talk a little about their background and what they are looking for. It's very much a two-way process, but if both sides are happy then we will send out an offer and look forward to welcoming another employee at Mind Candy with a new-starter lunch.

> ***"There's plenty of things to get involved in, like movie nights or board games at lunch."***
> Tim Bennett, Mind Candy

And tell us a bit about what the atmosphere is like at Mindy Candy, from your point of view.
People do work hard, especially before big releases, but enjoy themselves too. We recently moved into a much larger office, but it still has a relaxed atmosphere with astro-turf on the floor, couches in the meeting rooms, and the mandatory arcade machine and ping pong table. There is always a gathering of people having lunch in the kitchen together or heading out to visit one of the many restaurants in Shoreditch.

There's plenty of other things to get involved in too, like movie nights, board games at lunchtime, or gardening on the balcony. My sweet red peppers should be growing soon.

It's common practice for there to be groups of kids or the media touring the office as well, so it's a pretty lively place, especially when they all start going down our slide.

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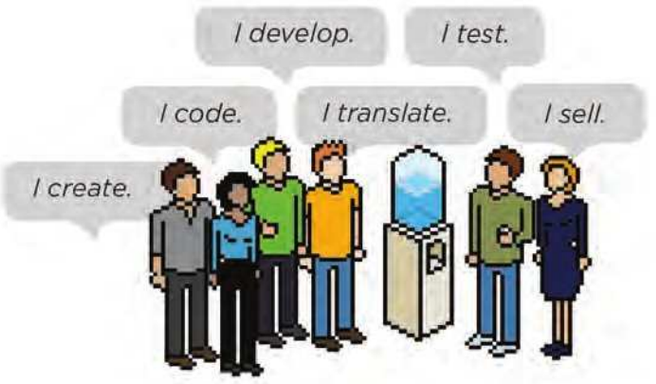

It takes all sorts to make a game.

We know there's a lot of people involved in bringing a game to market; and at OPM we know a lot of them personally. We have exciting opportunities for professionals across all areas of the business with leading companies throughout the industry worldwide.

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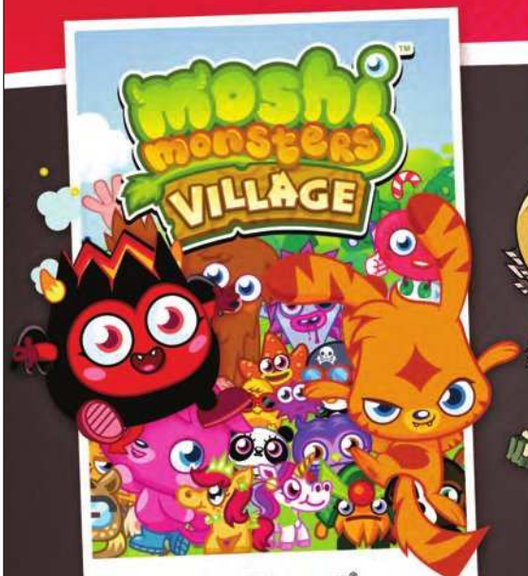

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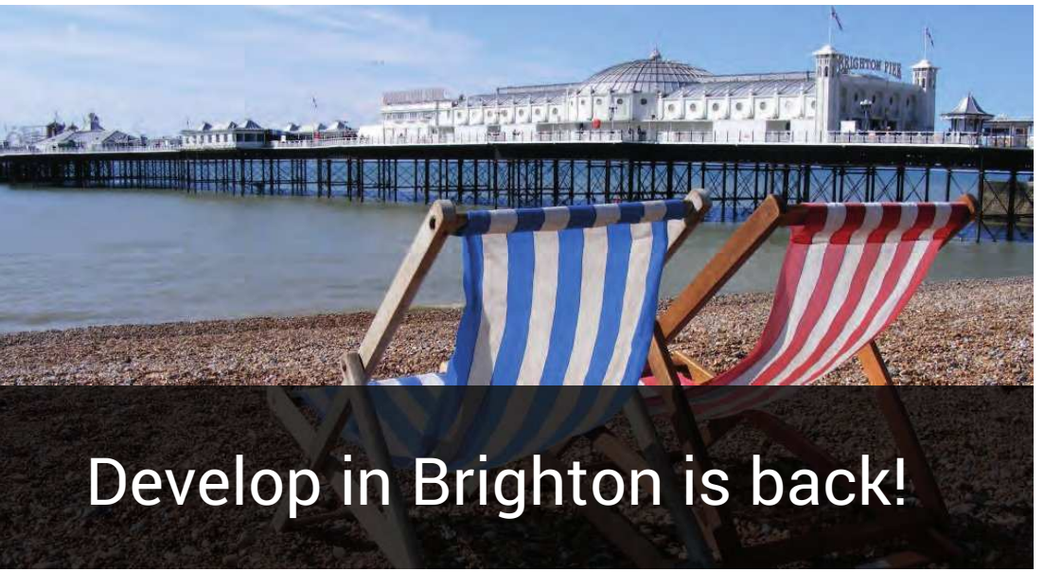

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Rob Clarke, Curve Digital

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Total Immersion: Music and Sound in The Chinese Room
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THE LATEST TOOLS NEWS, TECH UPDATES & TUTORIALS

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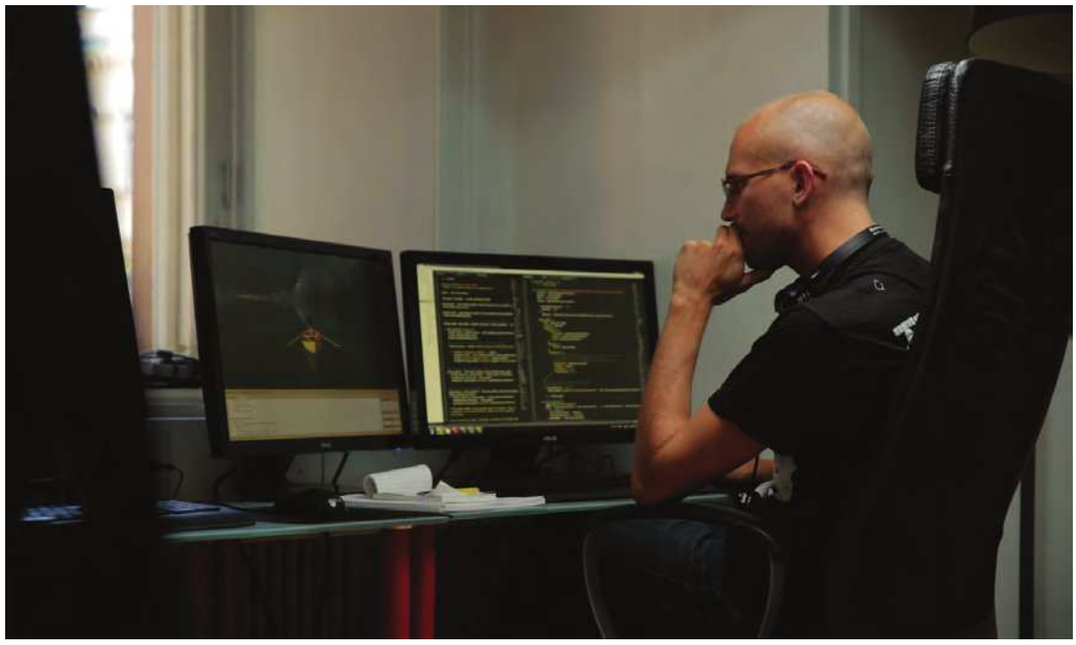


Web of opportunity

Aaron Lee speaks to middleware firms and developers on the frontlines to find out the best tools available for making browser games for desktops and mobiles

IT'S POSSIBLE TO find and play more games on the web today than on any other games platform. MMOs such as *RuneScape*. *FarmVille* clones. Advergames on that hot-new-band-of-the-moment's hompage. And they're free.

Nowhere has the ideal of openness been more present than the web. New frameworks, such as HTML5 and its interchangeable component parts, have kick-started another revolution in web games development.

Of course, anyone who's had their game time halted by broken plug-ins or scripting errors can appreciate that the web is far from perfect. But a committed group of companies is working to make the web an easier, more user-friendly place to develop games for.

NOT SO SIMPLE MARKUP LANGUAGE

"The single biggest issue is multiplatform support; a game that works across desktop and mobile web browsers equally well," Richard Davey, director of Photon Storm, tells *Develop*. "The reason this is an issue is to do with performance. On desktop you've got proper GPU-accelerated displays and they are often hard-wired into fast networks or stable Wi-Fi. On mobile, you've got an almost uncountable number of GPU and CPU combinations, displaying on a huge number of screen sizes and often via flaky 3G networks with strict bandwidth limits. The gulf between desktop and mobile is vast, and the gulf between low-spec and high-end mobile devices can often be just as crippling if you don't plan for it."

Davey says there is "no easy fix for this", and that it can dependent on the kind of game you're building and the intended audience. Photon Storm is behind the HTML5 games framework Phaser, which has been adopted by thousands of developers for their projects. Phaser, Davey says, mitigates the pain of working cross-platform by taking away the issues such as device audio limitations, allowing your game to run in WebGL and enabling easy asset loading.

"However no software can perform miracles, and no matter what you're developing in you always need to build for the platform and keep its limitations in mind at all times," he adds.

Platforms such as Turbulenz, Phaser and Goo Create (below) are opening the doors to a new wave of first-time web games developers

From top-to-bottom: Alistair Macdonald of Chunk, Iker Jamardo of Ludei and Richard Davey of Photon Storm

Top: Polycraft, the 3D tower defence game, built with the Turbulenz engine

Of course, HTML5 development itself can be a bit of a misnomer. It is fact an umbrella term encompassing a number of web technologies such as Canvas, WebGL, web audio and video, among others. The ideal, says Iker Jamardo, VP of engineering at CocoonJS creator Ludei, is for one code base to work across all hardware platforms.

"The reality is that the web browsing technologies available on each platform are very fragmented and the performance that they provide, especially on mobile, is far from being what games developers expect. This lack of a common ground HTML API support and low performance is what has held back web gaming from moving forward," he says.

This is something that Alistair Macdonald, lead developer at digital entertainment studio Chunk, acknowledges too. Chunk builds web games for brands and broadcasters, such as Cadbury, Disney and the BBC, many of them focused on children.

"Our web games have to play on a huge range of devices, platforms and browsers. Currently, there is no single tool that works across the entire range, so every HTML5 game we make is hand-coded and built around our in-house framework," he explains.

Chunk is expected to get its games running on fairly low-spec devices, he adds, which has been pretty challenging, despite HTML5's advantages.

SOFTWARE OR SUPPORT?

For all the rhetoric surrounding the web standard, making games using HTML5 is no straightforward process right now. Particularly for first-timers.

Having a robust pipeline coupled with capable tools has been a "major roadblock" in the web space, says Rikard Herlitz, founder and CEO of Goo Technologies. The Swedish software maker has a vision for a world where all digital experiences are available instantly on devices everywhere, helped in part by its own tools, such as Goo Create, to enable "instant access to 2D and 3D games".

Herlitz says: "Supporting the creation of game levels with direct visual feedback helps immensely, but it is my opinion that the combination of this with in-tool scripting is what really makes a difference.

"To be able to stay in the tool, adjust the scene, adjust your code, press play and get instant feedback of the state of your game is really mind-boggling."

> ***"In terms of accessibility and speed of production, web games development has gone backwards in the last few years."***
>
> Alistair Macdonald, Chunk

Thanks to WebGL, web audio, WebRTC and other APIs, Herlitz also feels web developers are getting a tonne of power while still being easily accessible. And this combination of power, ease of use and target reach is already changing the landscape, he adds.

Perhaps that's why Turbulenz CEO James Austin feels it's a question of financial support, not technology, that's putting off other devs from joining the web game revolution: "It's not a technology challenge anymore, sure all the platforms we build upon could be better for games, but today it's mainly a return on investment challenge. Developers still need to see a significant commercial success to attract them away from native and device-targeted alternatives."

Mozilla is looking to reduce the overheads for developers with its web technologies Enscripten and asm.js, a highly optimised subset of JavaScript. This cross-compiled code allows game content to run at speeds close to that of native. Vladimir Vukicevic, engineering director at Mozilla and inventor of WebGL, says it will reduce costs by "delivering a high fidelity experience previously only possible via plugins".

GONE IN A FLASH

With its ability to run on desktops and mobile platforms, HTML5 has been hailed as the technology that will supersede Flash. iPads, with their Flash-averting iOS software, were the dominant platform for mobile viewing in 2011, with Apple commanding a 52 per cent share of the mobile web browsing market, according to Net Applications' data.

Nonetheless, Flash still remains the choice of some developers, thanks to the striking results that can quickly be achieved with it and knowledge that's been built up around it.

"The reason we chose Flash 3D over HTML for *EndWar Online* is that Flash remains the engine of choice for web games," explains Zhou Hui Bo, prouder at Ubisoft Shanghai. "Firstly, it has Flash Professional, a great artist-friendly tool. For web games like *EndWar Online*, even 3D ones, UI remains an essential component and there's no better than Flash to build a high quality UI.

"Secondly, different browsers have different standards to run HTML5, and this can cause performance issues and require a lots of compatibility testing, which is much, much heavier than with Flash. So, today we still firmly believe that Flash is the best engine for our game, and we don't regret choosing it over HTML5."

Although conversion aids such as Web Marmalade and Ludei's CocoonJS exist, complications still exist before developers can achieve the results they're after. Like Chunk, which still hand codes its HTML5 games, Hui Bo says when it came to using Flash for 3D development Ubisoft had to start from scratch and build its own engine, editor and tools.

"We found out that Flash 3D programming is quite different from the original, and that we needed time to learn and master it. Fortunately, Adobe and the developer community were of great support by shipping the tools and framework, which we needed and helped us a lot," he adds.

MAKING IT ON MOBILE

However, while mobile platforms have become a major focus for HTML5 developers, Hui Bo says Ubisoft is content with Flash and its desktop-focused audience: "We must not forget the end user experience. Mobile and tablet have very different controls from PC. This means parts of our gameplay would have to be redesigned. To be frank, we still have so much on our plate with the PC version that for now mobile is taking a back seat, but that doesn't mean it won't happen."

Ludei's Jamardo argues however that the need to bring titles smartphones and tablets has been a major factor in developers choosing to build their web games with HTML5: "Games developers, and especially publishers, are realising that a lot of the traffic they are starting to experience on their products is coming from mobile and this is where Flash has failed to deliver.

"In a completely saturated market, being able to deploy everywhere, such as inside the browser or even outside of it as a native app, with the same code base becomes a great, and sometimes the only, opportunity for success."

But Austin says that understanding who their game is for should be developers' primary concern: "Once you know who you're targeting you can then work out which devices this group is using. Everything should be player rather than device focused. But having said that, many players new and old are looking for content across mobile devices. With this in mind, we make sure that our games and the Turbulenz Engine work across all devices."

> ***HTML5 has opened up the ability for anyone to create a browser game. No dev tools, no cost. This is extremely empowering.***
>
> Richard Davey, Photon Storm

PAGES OF EMPOWERMENT

Today, Photon's Davey says "we're in a weird flux" because of HTML5 standards, the constantly evolving browsers and the hardware fragmentation of mobile devices.

"Be prepared to unlearn what you know every six months," he says. "For example, six months ago Internet Explorer didn't support WebGL – now it does. You have to keep on top of these changes, or work with a game framework that does it for you. This can be tiring, but it's the only way to keep evolving and innovating, and not let one company dictate what happens when."

PROBLEM CODE

YOU CAN'T FAIL to have heard about the Heartbleed bug, which caused panic when news reports began circulating about the seriousness of the web browser exploit.

Photon Storm's Richard Davey says: "Heartbleed is a serious security issue relevant to anything that uses impacted versions of OpenSSL. Game devs shouldn't make the mistake of believing this only includes websites. It's an issue for desktop tools that access remotely hosted data, web-based or networked games, ad serving networks, in-game currencies and even simple things like high score leader boards and achievements.

"With the rise in cheap virtual hosting, lots of devs are now playing a system admin role too, and they absolutely must take action, or, at the very least, move to a proactive managed host that does so for them.

"Winning loyal players is hard enough these days. Don't lose them by storing their data on exposed servers. It's the kind of thing that destroys reputations and companies overnight."

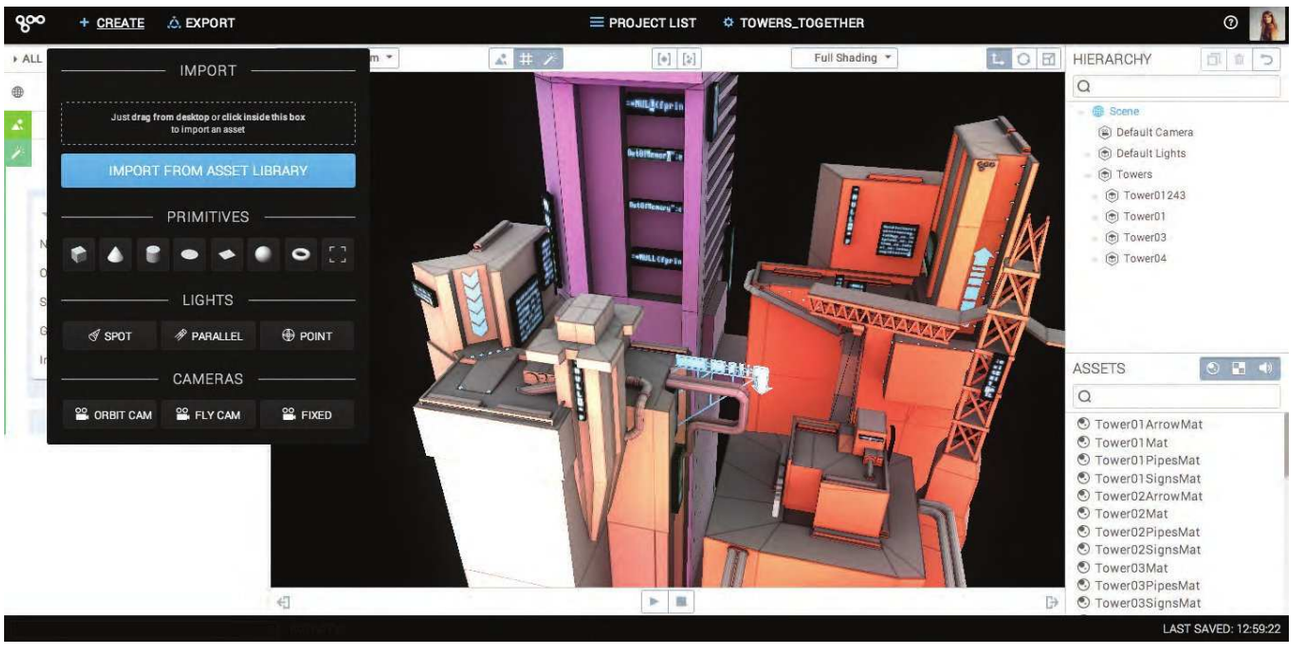
Perhaps these issues are why Chunk's Macdonald feels that HTML5 hasn't superseded the ease of Flash: "In terms of accessibility and speed of production, web games development has gone backwards in the last few years. Nothing has come along yet that matches the convenience of Flash combined with its market penetration."

Despite the bumpy nature of HTML5 development the two major strengths that developers who choose it frequently return to are its open source nature and its active community. The challenges HTML5 presents are offset by the community, as firms such as Turbulenz, Mozilla and more contribute tools and fixes to be used by all.

But its real benefit, Davey says, has been lowering the barrier for a host of first-timers to begin building web games of their own: "It has opened up the ability for anyone to create a browser game. They can literally open a text editor, drop in a few lines of code and have something running immediately. No compilation process, no dev tools, no cost. This is extremely empowering." ■

From top-to-bottom: Rikard Herlitz of Goo Technologies and Zhou Hui Bo of Ubisoft Shanghai

Left: A screenshot of Goon Quest within HTML5 editor Goo Create



Microsoft

Power Up: The Beautiful Game Competition

Microsoft and supporting games industry partners are working together to help encourage the growth in the UK games industry and help developers of all sizes. As part of this ambition we have created a competition to provide new store opportunities for your games and to help get your titles discovered. Individual game developers have just as good a chance of winning as larger studios – the most unlikely games are sometimes the biggest hits!

Power Up: The Beautiful Game competition runs until 20th June 2014. It is open to all UK games developers who port and publish their new or existing games titles to Microsoft Windows 8 and/or Windows Phone Stores. Each game entered will receive points for a wide range of game experiences and the number of downloads the games get on the Windows or Windows Phone Stores. The top 20 games with the most points will win great prizes for their developers, but all entrants have an opportunity for their games to be discovered and downloaded by 100,000s to millions of players.

With 20 prizes up for grabs you have a good chance of winning – no top 3 winners here. You can also enter multiple games into the competition: the more games you enter, the more chances you have to win.

Boost your downloads

We want to ensure that your game is discovered and downloaded. The quality of the game does not always guarantee success. As such we have partnered with the Chartered Institute of Marketing (CIM) to provide some guidance on good practice apps marketing. Visit the competition website for more details.

Points are awarded for:

- Game experience – quality of audio execution, visual execution and gameplay
- Downloads per store – we will count the downloads in both the Windows and Windows Phone stores

Prizes galore!

There is a fantastic prize pot of £30,000, including a holiday and Supercar hire vouchers. There are also free Unity Pro licenses for all entrants for the duration of the competition. Other prizes include Nokia Lumia 1020s, Nokia Lumia 525s, a Chartered Institute of Marketing Apps Marketing course and a chance to attend a special mentoring event with selected Board members from TIGA and UKIE.

Getting started

To find out more and to enter the game, go to **www.beautifulgamecomp.com** complete the 'Registration Form' and follow the instructions – it's as simple as that!

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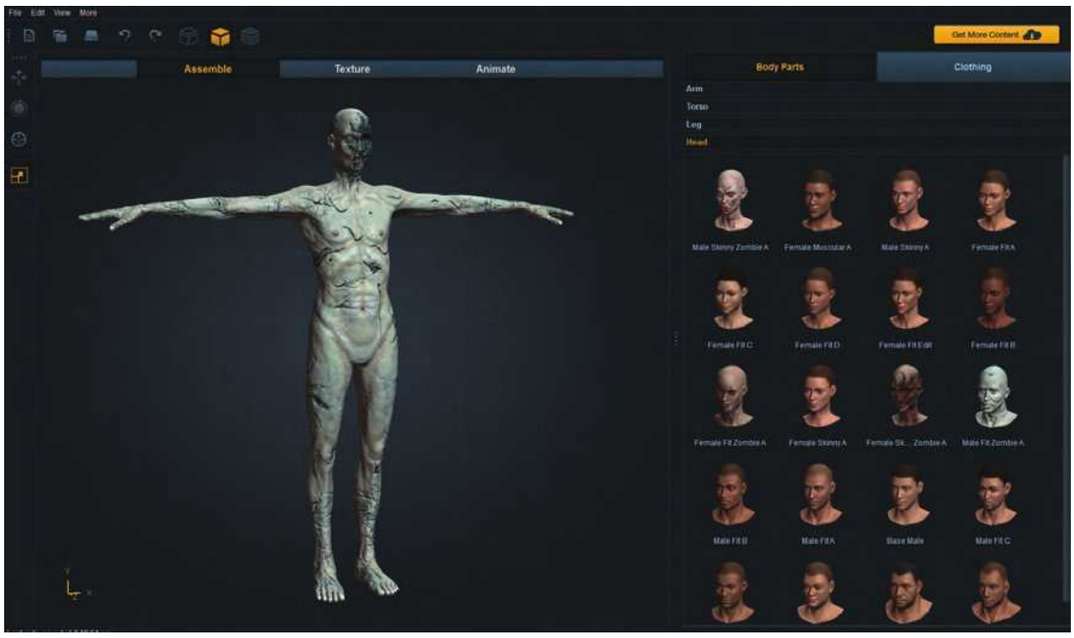
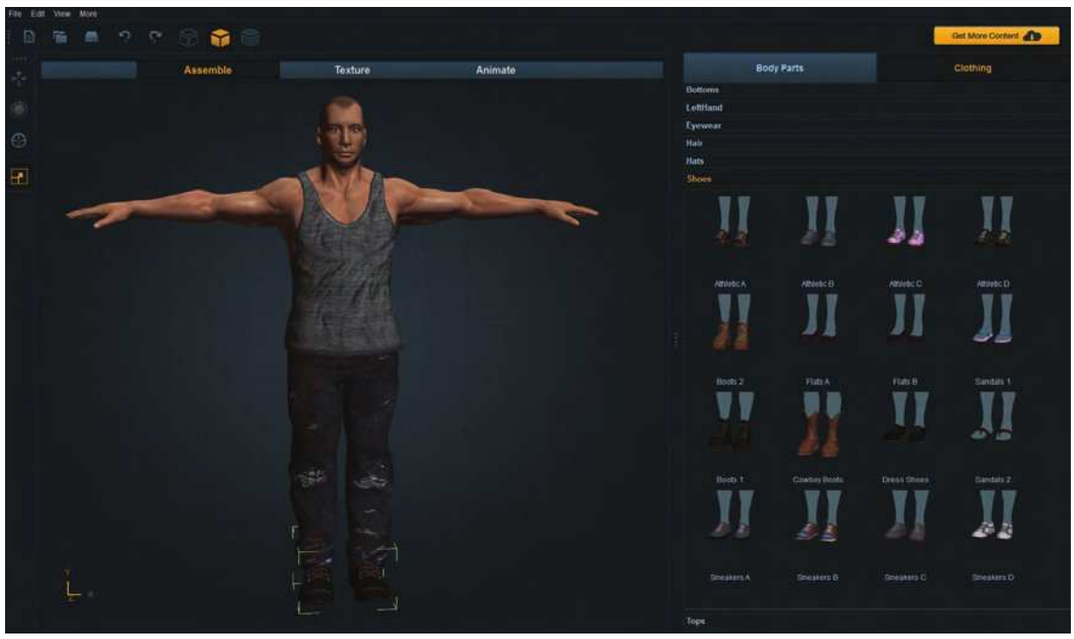
Digging into rigging

The long-serving Mixamo character service has just undergone its latest update. CEO Stefano Corazza gives **Will Freeman** a look at what it's offering artists and developers

Before we discuss the update and new features, for our readers not familiar with Mixamo's offering, what exactly is it, and what makes it distinct?
Generating animated 3D characters is still a labour-and-time intensive endeavour. And typically, access to customised assets is only feasible for those with the expertise and funds to work with expensive industry standard 3D software. Mixamo's end-to-end services make the process of 3D character creation, rigging and animation accessible to artists of all skill levels. The combination of web technology, machine learning and animation artistry make Mixamo's solution ideal for 3D production teams needing high quality animated characters in a matter of minutes, not days.

And now there's the new update. Is there a general theme in terms of the direction the update takes your online offering? Or a mantra to the general way it improves what you offer developers?
In this launch, we are focused on and giving developers more freedom over content generation, releasing the first bi-directional character creator. This fits with Mixamo's mission to democratise 3D character animation, so that a team of any size and means can rapidly get customised assets that can be tailored both technically and aesthetically to work within a range of games projects.





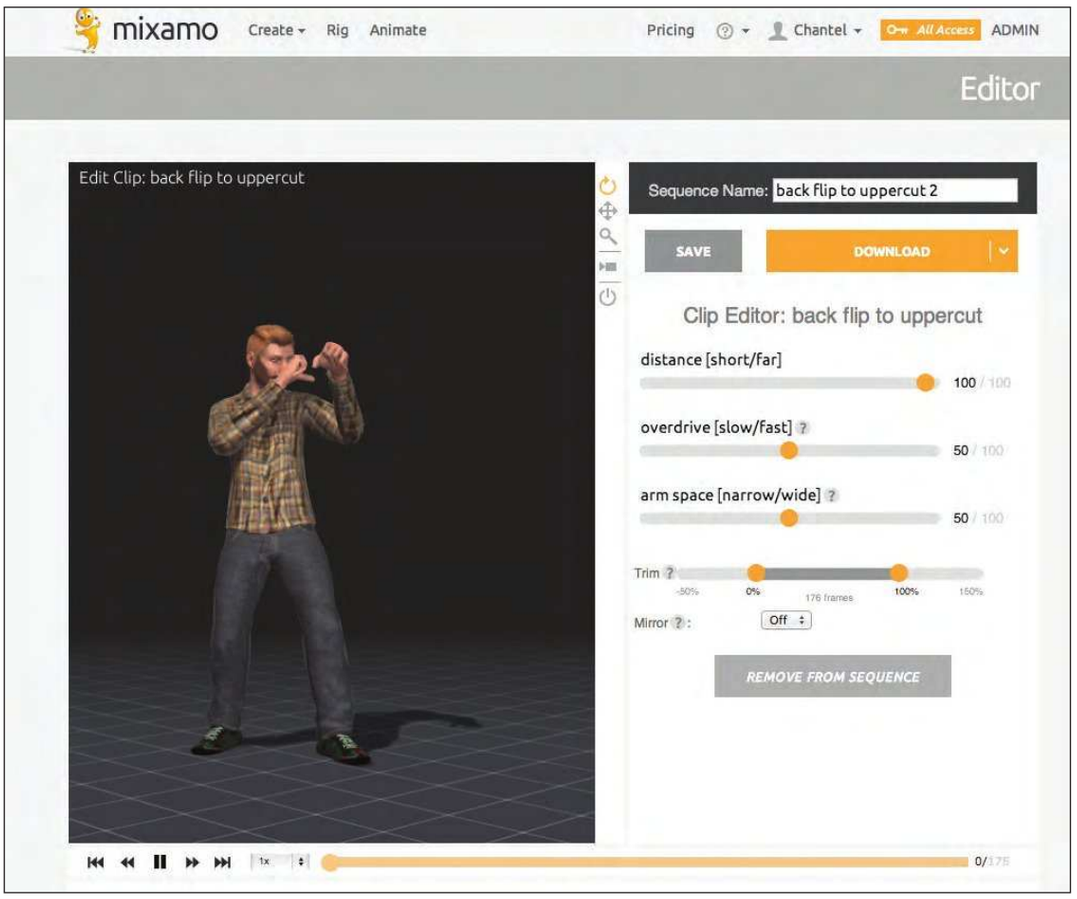
Fuse 1.0 is clearly a significant new element. What does that offer, and why is it important?
Fuse 1.0 takes all limitations off of character content creation. We now allow users to import and integrate their own assets with Fuse's character creator system so that developers are no longer restricted to Mixamo's style and content choices.

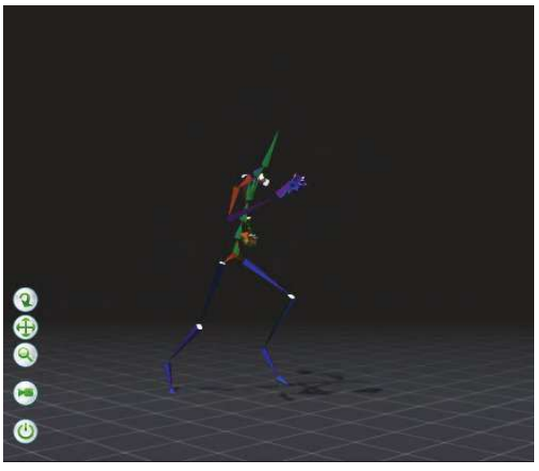
Now that developers have the ability to import unique IP to the Fuse system the number of possible character permutations is quite literally infinite. In a world where development cycles are getting shorter and budgets are shrinking, Fuse 1.0 can help to maximize modelling resources by combining a high degree of customisation with quality and expedited model creation.

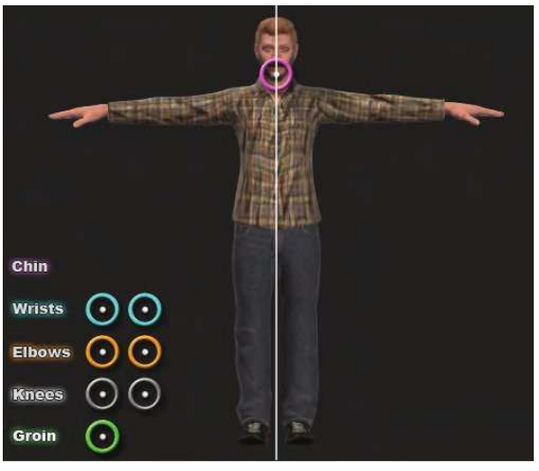
The tool also includes improved level of detail functionality for adjusting the complexity of a 3D objects in the editor, correct? How does that better things for developers using Mixamo?
Making LODs is tedious, which is why we made 'The Decimator' easy to use in any pipeline that calls for polygonal optimisation. Every project has unique needs around poly counts, so we let the user set the needed percentage of reduction.

We released this product in an Early Access version, yet the functionality of The Decimator makes it possible to keep the quality high on models and get meshes into any game engine. Just another manual process that Mixamo streamlines so developers can devote time to more creative parts of game production.

Mixamo CEO Stefano Corazza (left) says the studio's Fuse tool (above) takes all limitations off of character content creation







Corazza says developers can use Mixamo's Auto-Rigger (above) to pull the strings of any model they create and download it in minutes

What other new or improved features will make a real impact at games studios?
We just released a new optimised version of Face Plus, our real-time facial animation technology, always improving as we learn from users what features are important to them and how they are using Face Plus in their game development pipeline.

You've also introduced a new subscription model. Who does that target and why?
We are now providing the option of paying monthly for 12 months of service. People can check the Mixamo website for the latest prices. We decided to offer a monthly payment option because we believe that giving our users – many of whom are indie studios – more choice ultimately gives them more control. We are learning a lot by interacting with Mixamo users at our quarterly User Group meetings, in our community forum, via The Mixamo Blog and on Facebook and Twitter. And just like use cases for products, we are hearing that users have a range of needs when it comes to pricing. Monthly payments have proved wildly popular already.

You've described your technology as democratising 3D character animation. How have you done that while keeping the tools relevant to larger studios working on larger budget projects? Or are you just targeting the smaller teams?
Technology that streamlines 3D production is an asset to development teams regardless of size. We are seeing an overall trend in the industry to demand higher quality work but at quicker turnaround times and at fractions of the budgets that games like *Halo 2* and *Fable* enjoyed. Especially at the triple-A studio level, there is no margin for mistakes on timing or gameplay late in the production cycle. Mixamo gives these teams the freedom to iterate rapidly, to fail fast at the beginning of a production instead of making costly adjustments in the middle or end of the development pipeline.

I think David Hubert, cinematic director for Eidos Montreal, said it best when he spoke at GDC about how his team is using Mixamo. His company values Mixamo's online animation collection for getting motions onto placeholder models to work out timing so that planning around animation resources are allocated with confidence, not guesswork.

Why should artists be confident that using Mixamo can deliver distinct, unique results that match their game?
With the addition of the asset import feature in Fuse, Mixamo continues the tradition of developing software that is open to customisation at any point that works for the user's needs. Because all our assets are royalty-free and easy to download in universal file types, developers can get what is needed from Mixamo and tweak it to the spec required for that particular production.

For example, developers can use any model to be rigged by Mixamo's Auto-Rigger, and after our online technology has put in a full skeleton and done the weight-painting and skinning weights – in under two minutes – there is a choice to download or go on to apply Mixamo animations. Many of our users just use the Auto-Rigger and we actually see the majority of our All Access customers upload already-rigged models and leverage Mixamo's automatic retargeting system to get quality motions on proprietary models. Again, if adjustments are needed to integrate a Mixamo motion with other animation content then it's as easy as downloading the file and making edits to the animation data.

> ***"At the triple-A level, there is no margin for mistakes on timing late in the production cycle. Mixamo gives these teams the freedom to iterate rapidly."***
>
> Stefano Corazza, Mixamo

We even provide control rig scripts to run on models that have been rigged with the Auto-Rigger so that it is easy for even non-animators to tweak motions before putting the animated character into a game engine. We believe in giving control to the user, so we develop technology that is open at every step of the pipeline.

What's next for Mixamo?
At the moment we are working to add even more freedom to customise in Fuse. A feature in development right now is the ability to adjust facial feature shapes to any mesh in Fuse, even to a user's imported assets. Our end-goal with Fuse is to give developers the ability to import custom assets and characters in Fuse and automatically be able to download a set of blend shapes and the full body rigging with the 3D mesh. We keep working towards building a character pipeline that is a developers' nirvana. ■

www.mixamo.com

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Make your game for free

Development can cost a lot of money. So to help you cut costs, **Craig Chapple** has put together a list of useful free tools

UNITY 4

Company: Unity Technologies
Platforms: Android, BlackBerry, iOS, Linux, Mac, PS3, PS4, Windows 8 (coming soon), Xbox 360, Xbox One
www.unity3d.com

MOST PEOPLE IN development will be familiar with Unity, and it's available for free.

The free version of Unity for OS X and Windows includes publishing support for iOS, Android, BlackBerry, Windows Phone, Windows Store, desktop and web. It also comes with a 30-day trial of the full version, Unity Pro. The engine is also free for Wii U and Xbox One developers to boot.

Unity 4.3 offers access to its new 2D dev tools and animation tech Mecanim.

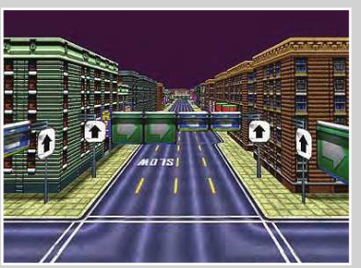
MONOGAME

Company: MonoGame
Platforms: Android, iOS, Linux, Mac, Windows 8. PS Mobile, Raspberry Pi and PS4 coming soon
www.monogame.net

THE MONOGAME ENGINE is an open source implementation of the Microsoft XNA 4 Framework. The toolset has been used for games including *Fez* and *Bastion*.

As well as being free for a number of platforms including mobile, Mac and Linux, the volunteer developers behind MonoGame are also bringing the tool to PS4, for free.

Project lead Tom Spilman recently told *Develop* the team hopes to bring it to all consoles by the year's end.



GAMEMAKER

Company: YoYo Games
Platforms: Mac, Windows
www.yoyogames.com

THE FREE VERSION of GameMaker Studio, an engine aimed at both entry-level enthusiasts and experienced developers, and allows users to export titles to Mac, Windows PC and Windows 8.

The trial version is resource-limited however, and does not include access to all the features.

YoYo Games recently announced the engine would be free for all licensed PlayStation developers making games for the PS3, PS4 and Vita. This version includes extra support for PlayStation features.

TURBULENZ

Company: Turbulenz
Platforms: Browser
biz.turbulenz.com/developers

TURBULENZ MADE THE move to free last year after its creators made the game engine open source. The toolset can be used for HTML5 game development, and users can self-publish and monetise their games online for free, without royalties. Titles hosted on its own website however are charged a 70/30 revenue split.

The engine is implemented in JavaScript to support rapid iteration of code and data, and features various physics, collision and animation tools as well as supporting up to 7.1 surround sound.

PROJECT ANARCHY

Company: Havok
Platforms: Android, iOS, PC, Tizen
www.projectanarchy.com

FROM THE CREATORS of the Havok Vision Engine is Project Anarchy, a free mobile game engine designed for the development of titles for platforms such as iOS, Android and Tizen.

Currently in version 2014.0.5, the tool currently includes the addition of global illumination lighting solution Beast and a host of Havok's own tech such as Physics, Animation Studio and AI.

Other features include Autodesk UI tool Scaleform, audio toolset FMOD (see p49) and a specialised mobile water shader and primitive meshes for easy prototyping.

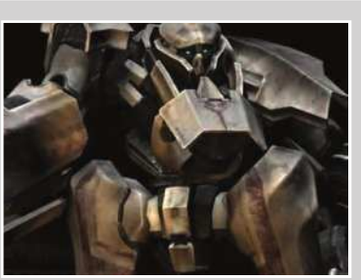
STENCYL

Company: Stencyl
Platforms: Browser
www.stencyl.com

STENCYL IS A games making toolset that allows developers to release games for free on the web in Flash, although this will also include Stencyl branding via a splash screen before the game starts.

The tool uses a drag-and-drop interface featuring hundreds of ready-to-use blocks of code that can be snapped into place, as well as create their own blocks.

Stencyl also allows games developers to test their titles on paid-for target platforms such as iOS, Android and desktop.



PLAYCANVAS

Company: PlayCanvas
Platforms: Browser
www.playcanvas.com

PLAYCANVAS IS A cloud-based HTML5 games development platform designed for the creation and release of 3D HTML5 titles. No download or installation is required, and developers can collaborate in real-time using the tool.

Users can develop commercial games for free. Up to two collaborators can work on a project, and can use disk space up to 200MB. Free projects cannot be developed in private however, but content created publicly can still be marked as private and can't be ripped by other users.

PHASER

Company: Photon Storm
Platforms: Browser
www.photonstorm.com/phaser

PHASER IS A free open source game framework for the development of desktop and mobile HTML5 games.

Games using the tool can be made in JavaScript or TypeScript and features a Canvas and WebGL renderer that can automatically swap between the tools based on browser support.

The dev tool includes its own Arcade Physics system that allows developers to control velocity and acceleration and also features full collision and separation control, as well as its own animation, particle and camera systems.

GAMESALAD

Company: GameSalad
Platforms: iOS, Mac
www.gamesalad.com/creator

DEVELOPERS USING THE free version of development platform GameSalad can publish their titles to platforms such as iOS, Mac and the firm's own GameSalad Arcade service. Titles released for Apple's devices however will include mandatory pre-launch and interstitial advertisements.

The engine allows both inexperienced and veteran games developers to create titles using a visual drag-and-drop interface without the need to use any code, which can be ideal for quick iteration on ideas and prototypes.

To date more than 200,000 games have been developed using the GameSalad engine.

CORONA SDK

Company: Corona
Platforms: Android, iOS, Kindle, Nook
www.coronalabs.com

ALTHOUGH THE BASIC and Pro versions come with fees, mobile developers can use the Corona SDK starter kit completely free.

The tool lets developers create a game and publish it to iOS, Android, Kindle and Nook without paying anything. Through this, developers are allowed a limited number of plugins, such as for ad monetisation – as in-app purchases are not supported by the Starter SDK.

Features available in the starter pack include basic shapes, lines, text, custom polygons, anchor points and groups and containers, as well as the ability for users to create their own splash screens.

RENDERDOC

Company: Crytek
Platforms: Windows
www.cryengine.com/renderdoc

RENDERDOC IS A new graphics debugging tool from Crytek made available to download for free.

The tool, targeted at both indie developers and triple-A studios, can be used to capture and replay frames from Windows applications using Direct3D 11.0 11.1.

The program can also be used for detailed examination of API usage to locate various bugs as well as providing tools for deep analysis and graphics inspection.

In future, Crytek plans to add support for platforms and APIs such as OpenGL, and is using a community sourcing approach to help drive the tool's development.

WWISE

Company: Audiokinetic
Platforms: Android, iOS, Linux, Mac, Windows, Windows Phone 8
www.audiokinetic.com

ONE OF A raft of game dev tools to adopt a new model in an effort to attract indies games developers, Audiokinetic's audio toolset Wwise is now available at no cost through a new limited commercial licence.

Games that use fewer than 200 sound files in their Wwise project can use the tool for free, but they are not able to use any of the available third-party plugins. The offer is only open however for titles on Windows, Mac, Linux, iOS, Android and Windows Phone 8, although Audiokinetic has called on indies and existing Wwise users targeting consoles to get in touch for further details.

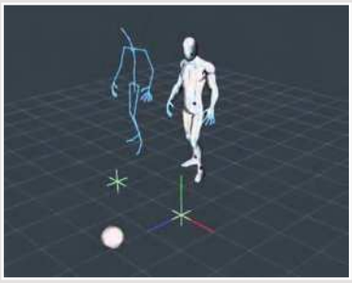
FMOD

Company: Firelight Technologies
Platforms: Android, iOS, Linux, Mac, PS4, PS3, Vita, Wii U, Windows, Windows Phone 8, Xbox 360, Xbox One
www.fmod.org

FIRELIGHT TECHNOLOGIES' POPULAR audio middleware, the FMOD Studio tool suite, went free for indie developers in March.

The middleware is available at no cost to developers with game budgets equivalent to or under $100,000. Previously, users of the software had been required to pay $500 per title to use FMOD.

The latest version of the audio middleware, used in Turn 10's Xbox One launch title *Forza Motorsport 5*, added a Unity integration plug-in and a plug-in SDK for creating sound generators and effects.



WEBANIMATE

Company: Ikinema
Platforms: Linux, Mac, Windows
www.ikinema.com/webanimate

IKINEMA'S WEBANIMATE TOOLSET is designed specifically for indies and lets users use a fully-featured animation and retargeting platform in their browser.

Users can import mo-cap and models in FBX and BVH, retarget and customise animation, rig skeletons, pose and animated and pose and retarget 2D models. It also allows the control of asset storage from local drives, network servers and the clouds so artists can collaborate on projects globally and share files.

Developers using the tool can also upgrade to three other subscription packages should they want to unlock more features such as batch processing and a RunTime Rig Export.

UPSIGHT

Company: Upsight
Platforms: Android, iOS
www.upsight.com

UPSIGHT IS THE result of the merger of mobile analytics firm Kontagent and engagement and monetisation tools company PlayHaven.

The new platform is a combination of the two services and gives devs the ability to track user behaviour by tracking core acquisition, engagement and revenue metrics.

The free version of the tool allows developers to send push notifications to 250,000 users per month to send players to an in-game event or Upsight content unit, and also includes a number of in-app marketing tools, such as allowing devs to segment users for specific promotions based on certain criteria.

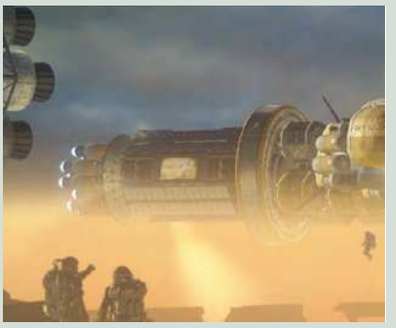
HAXE

Company: Haxe
Platforms: Android, BlackBerry, iOS
www.haxe.org

HAXE IS AN open source multi-platform programming language that can be compiled to a multitude of programming platforms including JavaScript, Flash, C++, C#, PHP and Java, enabling developers to release their titles on mobile platforms such as iOS, Android and BlackBerry.

The idea behind the Haxe project is to provide a standardised language for programming and a standard library that works the same on all compatible platforms.

The tool also offers a quick compiler and type checking for code, allowing developers to help catch programming errors before testing the results in the browser.



KEY RELEASE

Marked for greatness

Futuremark wants to provide open and accountable benchmark testing. **Aaron Lee** finds out about its flagship app

Futuremark's Jani Joki says the company's open process has stopped developers and consumers being misled

HARDWARE MAKERS MAY claim that their latest products are on the cutting-edge, but that's not always the case.

Benchmark testing tool 3DMark, from Finland-based Futuremark, measures the real-time graphics performance of computer hardware and mobile devices. As graphics-intensive mobile games such as *Infinity Blade III* and *République* grow in scope, it's a tool well placed to assist developers or anyone else in games that needs to know more about what their gaming devices are capable of.

BENCH-BUSTED

Futuremark director of engineering Jani Joki tells *Develop* its benchmarks are the "industry standard".

"Making great benchmarks is our singular focus, and we've been doing it for more than 15 years," says Joki. "We work closely with major technology companies such as AMD, Intel, Microsoft, Nvidia, Qualcomm and many others. You cannot make accurate, relevant benchmarks without industry input."

Joki adds that the company's open and accountable process has stopped developers and consumers being misled: "We were the only benchmark maker to take action against handset manufacturers who were recently caught unfairly boosting their Android benchmark scores, for example.

"Taken together, our deep expertise, wide cooperation and open processes ensure that we are best placed to create benchmarks that are accurate, relevant and impartial."

One company that's used the firm's tech is graphics specialist Imagination Technologies. It recently made use of Futuremark's 3DMark Cloud Gate benchmark to showcase its graphics capabilities for headsets at Mobile World Congress. Cloud Gate was originally designed for testing Windows notebooks and has only been made possible on mobile hardware thanks to the latest processors supporting OpenGL ES 3.0.

"3DMark shows what is possible using the latest graphics APIs with practical implementations of new effects and techniques," Joki emphasises. "Recently, another trend has been towards chips that use less power. We will soon be adding battery life measurement to 3DMark to provide a rounded view of mobile performance."

ON YOUR MARKS

Price-wise, 3DMark is available in three editions, including a free version (3DMark Basic Edition) for personal use. For overclockers and system builders, the Advanced Edition, priced from $24.99, offers custom settings, benchmark looping and detailed performance graphs. And for businesses, the Professional Edition includes command line automation, private offline results and additional tools. It is also the only version licensed for commercial use and costs $995.00.

As for Futuremark's plans for the future, Joki says: "This year we'll bring a version of 3DMark Cloud Gate to Android and iOS. On Windows, we'll be adding a new test for portable devices that are DirectX 11 capable but which lack the power to run our test for dedicated gaming PCs.

"Microsoft announced DirectX 12 at GDC this year, and it won't surprise anyone to hear that we are working on a test for that too." ■

3DMark
What is it? A real-time graphics performance testing tool for Android, iOS and Windows
Company: Futuremark
www.futuremark.com/3dmark

HEARD ABOUT

Musical grammar

John Broomhall talks to composer Daniel Olsén about his work on the critically acclaimed iOS thriller Device 6

She browsed the bookshelf. It was full of
books about chemistry, mechanics, physics
and mathematics. They
date, just like everything else in the room.
A calender on the wall claimed that it wa
September 1946.

In Device 6 (above), a surreal thriller stripped of visuals, composer Daniel Olsén (below) says players pay more attention to the audio, making it a vital component

AMONG THIS YEAR'S crop of triple-A blockbusters nominated for the coveted Game Audio Achievement BAFTA, Simogo's *Device 6* was an intriguing and exciting contender – in part, a sign of the times in game sound.

Along with Sweden-based game creator, Simon Flesser, composer and co-sound designer Daniel Olsén was responsible for realising its audio vision from his home half a globe distant in California.

Olsén, originally from Sweden, describes the enigmatic iOS title: "*Device 6* is a bit like playing a written novel. The words create the map you are navigating on. They stretch out when you walk, form paragraphs when you enter a room and change directions when you reach a corner.

> ***"This project was completed in six months – with strong unified direction and lots of freedom."***
>
> Daniel Olsén

"There are sound effects such as footsteps and doors and you can hear music playing from different machines throughout the game. To progress, you have to solve puzzles based around visual, text and audio clues.

"There aren't a lot of graphics in the game so the audio, together with the text, creates most of the atmosphere and imagery in the player's imagination. You also get clues through recorded messages. Since you are almost completely stripped of visuals, you pay more attention to the audio, which is an extremely vital component to the experience – even more so than many other games."

Olsén's main task was to write the music, but he also contributed some sound effects to the game. Flesser, meanwhile, was in charge of audio direction, creating sound effects and fitting all the audio together in the game. The pair worked closely to ensure all sounds and music felt like they are part of the same universe – no small feat given that they were in different time zones.

"Because I do this in my spare time, I had mostly evenings and weekends," explains Olsén. "I would usually stay up late and by midnight, it was morning in Sweden, so Simon would wake up and listen to my stuff. Then we would chat a bit and sometimes I would make adjustments before bed. Simon and Simogo gave me a lot of creative freedom, but we had talked for many weeks about audio direction before I even got started, so I wasn't working blind."

LITTLE VS LARGE

So, how would Olsén compare working on games like this with larger console titles in terms of opportunity for artistic expression?

"I have never worked on a large console title so I can only guess what that's like," he says. "This project was completed in six months with very few people – it was created quickly with strong unified direction and lots of freedom. A bigger title's development can span several years and a lot of people want to have opinions about everything, including music and sounds. So I think if you have a somewhat unusual idea about the audio, it might be harder stick to it in a big company because there might be people with a different vision. Someone might even stop you because they would rather play it safe since there is a lot of money involved. In fact, those who still manage to do something unique in those productions should earn extra respect."

Securing a BAFTA nomination is a striking testament to *Device 6*'s music and sound creativity. Olsén describes the nomination as an "incredible honour", and expressed shock at going up against the likes of *Battlefield 4*, *BioShock Infinite* and *GTA V* – triple-A titles that have larger audio teams spending countless hours working on them.

"I think what might have earned us a spot was simply creativity and a unified audio direction," says Olsen. "*Device 6* never strives for realism, but it still wants to create a believable and relatable audio experience. It doesn't really care about how people might perceive individual pieces as long as everything makes sense as a whole. I think we managed to have all the audio merge well, and in a lot of places it's hard to tell the difference between music and sound effects.

"In the end I feel like the game got its own voice – something that's distinct and instantly recognisable. I think that is important and I want to believe that is why we were chosen." ■

Device 6
Developer: Simogo
Publisher: Simogo
Platform: iOS
www.simogo.com/work/device-6

John Broomhall is a game audio specialist creating and directing music, sound and dialogue. Find him at: **www.johnbroomhall.co.uk**

UNREAL DIARIES

Unreal Engine 4 unleashed

Tim Sweeney talks about opening up the engine, tools and source code to the world

Founder Tim Sweeney says Epic wants to become a company that succeeds when UE4 developers succeed

AT THE 2014 Game Developers Conference, Epic Games' founder Tim Sweeney made an announcement: "Unreal Engine 4 has launched. What we've released is both simple and radical: everything."

The fully-featured engine, including the tools and C++ source code, is available to download, with the goal of putting the technology within reach of everyone interested in building games and 3D content.

Sweeney says: "For $19 per month, developers can have access to everything, including the Unreal Editor in ready-to-run form, and the engine's complete C++ source code too.

"This is the complete technology we at Epic use when building our own games, forged by years of experience shipping games like *Gears of War* for Xbox and *Infinity Blade* for iOS, and now reinvented for a new generation.

"Having the full C++ source provides the ultimate flexibility and puts developers in control of their schedules and destinies. Whatever you require to build and ship your game, you can find it in UE4, source it in the GitHub community, or build it yourself – and then share it with others."

DEVELOP IN THE UNREAL ECOSYSTEM

Beyond the tools and source, UE4 provides an entire ecosystem. Anyone can chat in the forums, add to the wiki, participate in the AnswerHub question-and-answer portal, and join collaborative development projects.

To help developers get started, Epic ships a large variety of polished content, samples and game templates which are available through the engine's Marketplace.

As Sweeney puts it, Marketplace "simply hosts free stuff from Epic, but its resemblance to the App Store is no coincidence: it will grow into a complete ecosystem for sharing community-created content, paid and free, and is open for everyone's participation".

HARNESS LEADING PLATFORMS

The initial release of the engine is only the beginning. The UE4 editor currently runs on Windows PC and Mac OS X and the tools are used to deploy for PC, Mac, iOS and Android.

In the C++ code, many new initiatives can be extended. These include, for example, Epic's efforts to support Oculus VR, Linux, Valve's Steamworks and Steam Machines, along with deployment of games to web browsers via HTML5. It's all right there, in plain view, on day one of many years of exciting and open development ahead.

In addition, developers building projects for PlayStation 4 and Xbox One can obtain Epic's console tools upon providing their respective Sony and Microsoft registration credentials.

SHIP GAMES WITH UNREAL

Sweeney explains how Epic is working to build a company that succeeds when UE4 developers succeed. Anyone can ship a commercial product with UE4 by paying five per cent of gross revenue resulting from sales to users.

He adds: "We realise that's a lot to ask, and that it would be a crazy proposition unless UE4 enables you to build way better games way more productively than otherwise."

So, will this effort succeed? Epic says that's up to how developers judge the engine's value.

UE4 has been built by a team of more than 100 engineers, artists and designers around the world, says Sweeney, and this launch represents all of Epic's hopes and dreams of how major software can be developed and distributed in the future.

In light of this new start, Sweeney concludes: "We have enjoyed building UE4 so far, and hope developers will join us on this journey." ■

www.unrealengine.com

UPCOMING EPIC ATTENDED EVENTS

GameHorizon 2014
May 7th to 8th
Newcastle, UK

E3 2014
June 10th to 12th
Los Angeles, USA

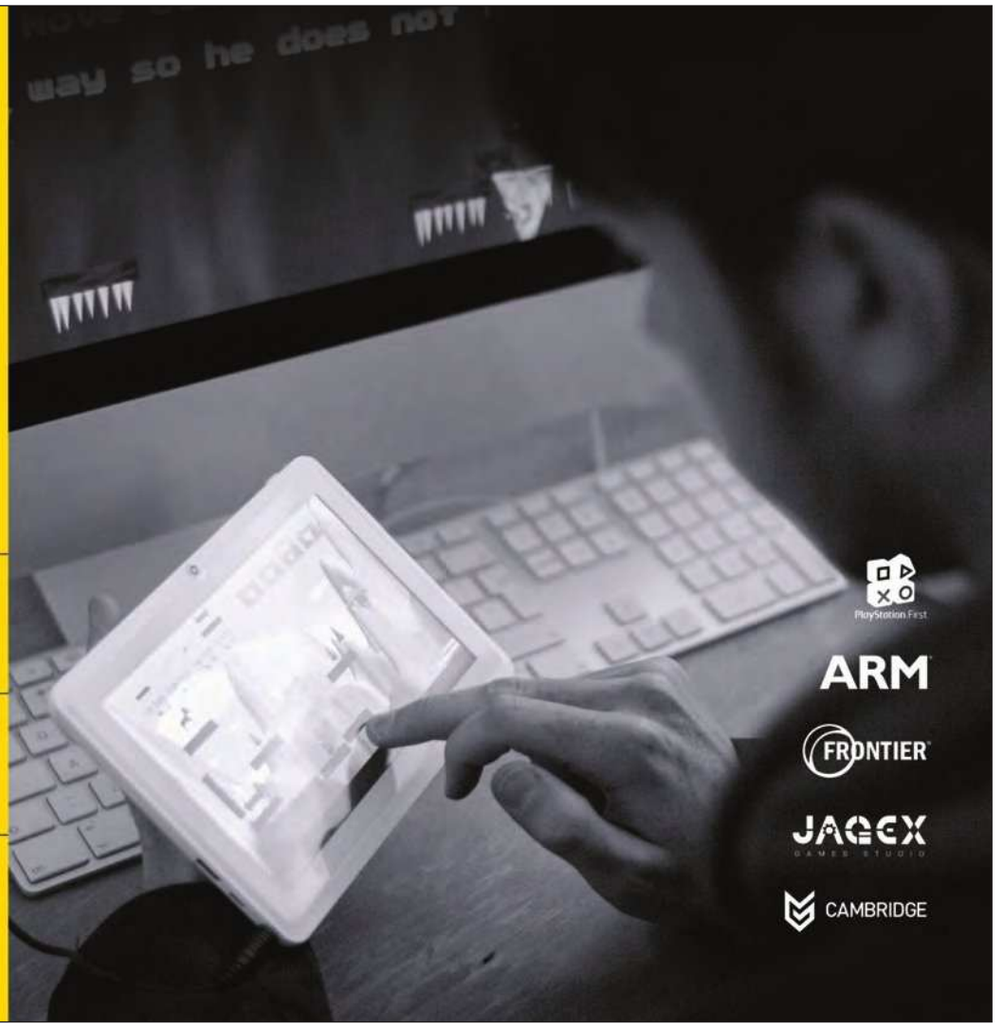
Develop Conference 2014
July 8th to 10th
Brighton, UK

Email ***licensing@epicgames.com*** *for appointments and sign up for Epic's newsletter at unrealengine.com.*

Epic is hiring. To find out more visit: **epicgames.com/careers**

FOR MORE SUCCESS STORIES, VISIT: UNREALENGINE.COM/SHOWCASE

BRAINS EDEN. 2014. GAMING FESTIVAL.



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UNITY FOCUS

Remastering Oddworld's origins

How Just Add Water used Unity to restore one of the 90's most unlikely cult puzzle-platforming games

Just Add Water's Stewart Gilray (above) says Unity enabled his team to iterate with extreme ease for its refresh of Abe's Oddysee (main)

ABE'S ODDYSEE WAS a marvel when it arrived on the original PlayStation in 1997. Taking control of Abe, a scrawny, inquisitive alien critter, players explored a totalitarian sci-fi world with a comedic edge. At the time, it was pioneering title not just for the console, but as a forbearer of gaming's boundless potential.

More than 15 years after *Oddworld* creator Lorne Lanning and his team gave birth to one of gaming most unlikely heroes, Yorkshire-based developer Just Add Water is revitalising Abe and his original adventure from the bottom up for a new generation of consoles and a new audience of gamers.

Titled *Oddworld: New 'n' Tasty*, the game will retain the original game's 2.5D perspective and gameplay, which blended less-than-athletic platforming with puzzle solving that frequently involved dialogue and interactions with fellow NPCs. But it's also been given a complete visual upgrade along with remastered sound effects and music.

AN ODDWORLD OF ITERATION

In order to bring Abe up-to-date for today's audience, Just Add Water selected Unity as the engine to power this new outing.

"The big thing for us was having a middleware that had been used in lots of titles, and on lots of platforms, but with a creative development environment, and that's exactly what we got with Unity," says Just Add Water CEO Stewart Gilray.

Fans of the original will remember the lovable, slightly slapstick animations that littered the gameplay. And Gilray says Unity was adept at helping JAW to create a game that plays the way *Oddworld* fans remember.

"It made quick iterations extremely simple. Even now as we approach the end of development we can have a new idea and have it up and running in minutes. This has been a massive help throughout development," he says. "It didn't directly help bring the gameplay up-to-date, but it allowed us to concentrate on the game itself and not having to wrestle with an engine that perhaps was bloated for what we needed. So we spent more time making a game, than working out how to make a game."

> ***"Unity made quick iterations extremely simple. Even now, we can have a new idea running in minutes."***
>
> Stewart Gilray, Just Add Water

In fact, Gilray says the ability make quick tweaks, and to be instantly able to test it in-editor, without having to build complex data and wait for a period of time while that happens, was one of the biggest advantages of using Unity.

As for possible improvements, Gilray says: "Ironically, Unity 5 handles a bunch of the things we've wanted addressed – things like a 64-bit editor, whereas it was 32-bit in the previous version. Also since Unity 4.3 we've had Perforce integration, which is a massive boon for a professional studio such as ours. A better a-sync streaming system, too."

A TASTY COMBINATION

Gilray and his team learned a lot of lessons telling Abe's origins, including improving their technical prowess and knowledge of Unity's capabilities. When it comes to Unity itself, he says not using the Unity Asset Server was a big lesson. "We prefer sticking with something like Perforce, especially for bigger projects like *New 'n' Tasty*, which weighs in at around 19GB of raw data," he explains.

Communication is key in *Oddworld* games, just as it is in any development team. And the engine certainly appears to give Just Add Water the flexibility to approach the project in a manner that suited them best.

Finally, on the subject of whether he would recommend Unity to other developers, Gilray says: "Definitely, if you want to work on a system that 'just works' and has amazingly quick iterative development environment, you'd be nuts not to use it. That, coupled with the network of Asset Store developers out there, and you can make some truly remarkable looking titles." ■

Oddworld: New 'n' Tasty
Developer: Just Add Water
Publisher: Oddworld Inhabitants
Platform: Linux, Mac, PC, PS3, PS4, Vita, Wii U
www.oddworld.com

MADE WITH MARMALADE

A developer's best friend

Sunbreak Games' Jason Behr reveals why his team chose Marmalade to create the enchanting Buddy & Me

Why Marmalade Mattered: Sunbreak Games was able to use its experience with Marmalade to quickly bring its endless runner to a multitude of mobile platforms
www.madewithmarmalade.com

Sunbreak Games' team already had great experience with Marmalade, making the creation of Buddy & Me for iOS, Kindle and Android almost effortless

APP STORES ARE currently drowning in endless runners, but perhaps none are as endearing as Sunbreak Games' *Buddy & Me*. The title sees players guiding a boy through dreams of an enchanted forest with help from a magical creature named Buddy.

For Sunbreak founder Jason Behr, the game was borne from a long-standing desire to create a game centred around nostalgia for childhood and first pets.

"Think about that best friend or loved pet that you went on adventures with, and moments of discovery while exploring outdoors," he says.

"*Buddy & Me* taps into all those themes, things we can all relate to no matter what our age, while also being able to bring innovative gameplay to the endless runner genre."

The game got off to a healthy start, securing promotions from Amazon and Apple on their respective marketplaces and garnering comparisons to the works of Disney and Studio Ghibli.

This success was due in no small part to the experience of the team. Behr had plenty of big games like *Metroid Prime* and *Halo 4* under his belt. And the talents the team shared with a certain toolset made it simple to decide which technology would power *Buddy & Me*.

"Our lead engineer, Brennan, had over a year of making projects with Marmalade before working on *Buddy & Me*," says Behr. "We also had another Marmalade veteran with a couple of years' experience.

"The decision to use Marmalade was based on three big factors. Firstly, we wanted a tool that could deploy cross-platform from the same codebase with as little hassle as possible. Secondly, we wanted to leverage our previous C++ experience and make use of all the optimisations that this allows.

> ***"We were able to completely rebuild the prototype in just a couple of weekends with Marmalade."***
> Jason Behr, Sunbreak Games

"Finally, we already knew that Marmalade was a reliable platform that would deliver solid results in a reasonable amount of time. When compared to months of work from another toolset, we were able to completely rebuild the prototype in a couple of weekends in Marmalade – it kind of spoke for itself."

MOBILE BUDDIES

As Behr says, cross-platform development was crucial to the Sunbreak team, and this has been one of the key drivers behind Marmalade's success.

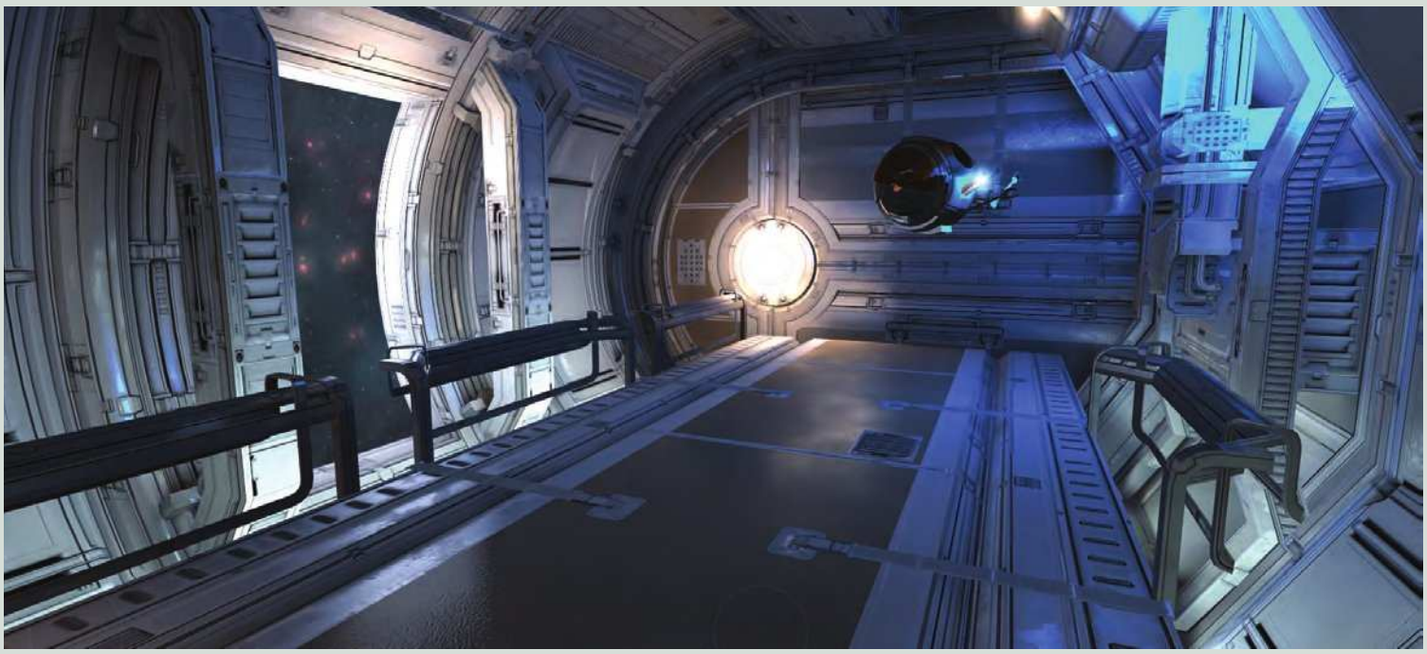
The engine's accessibility allowed Sunbreak to bring *Buddy & Me* first to iOS and Kindle. The game has since been released on Google Play and even Amazon's new Fire TV device in the US, and Behr is exploring the possibilities on other mobile platforms.

"We also have all kinds of ideas for future games, including continuing to expand on the *Buddy & Me* universe," Behr says. "For an immediate expansion and sequel, we'll keep building up our Marmalade toolset."

Given his experience with Marmalade, lead engineer Brennan McQuerry heartily recommends that new studios consider the technology when making their own games: "As mobile developers, we have the daunting task of being able to craft games that work across a huge landscape of rapidly changing devices. How do you account for all the sound, music, 2D, 3D, video, multi-touch, memory management and everything else of all the different platforms of all the different devices that your customers will be using next year?

"Marmalade cuts through the noise and provides the toolset to focus on building what you want, and then it automatically gets it working on just about every device you could want." ■

Buddy & Me
Developer: Sunbreak Games
Platform: Android, Fire TV, iOS, Kindle
www.sunbreakgames.com



GEOMERICS SPOTLIGHT

Enlightening Unity 5

How the demands of Unity's global userbase have helped shape Geomerics' renowned lighting software

Geomerics first announced support for mobile in 2012, and founder Chris Doran says it was an essential requirement from Unity

GDC 2014 WAS an exciting time for games technology companies, with game engines one of the hot topics of conversation. Leading the way was Unity with its announcement of an impressive range of new features for Unity 5, and top of that list was an entirely new lighting model, based around Geomerics' Enlighten technology.

This was the first time Enlighten would be put in the hands of a group as wide and diverse as the Unity userbase.

"We had been talking to Unity on-and-off for around three years," says Geomerics' Chris Doran. "When discussions began, the first wall we hit was around business models. Enlighten is typically licensed on a per-game basis, whereas Unity is licensed on a per-seat model. This can be hard to reconcile and led us to explore a range of options. The obvious one for us to look at first was a plug-in model, but Unity were not keen on having potential additional paths in their rendering code. The conclusion we came to three years ago was that integration needed to be an all-in commitment by both parties, and that was awkward for us at that point.

"Unity had a long list of technical requirements that they were looking for in their next-gen lighting engine, and we needed to satisfy all of them. In practice, these broke down into three headline features: support for static baking, simplifying the product and runtime support for mobile platforms. Over the past three years we have ticked off all three of these, which got us to the point of the announcement at GDC 2014."

> ***"We needed tech that was high-end, but could still allow users to save results with a button press."***
>
> Joachim Ante, Unity

EASY-TO-USE HIGH-END TOOLS

Doran says Unity wanted to see if Geomerics could run Enlighten in a way that it 'just worked', so that, ultimately, Unity developers could develop and light a game without having to know anything about how Enlighten worked.

Joachim Ante, CTO of Unity, adds: "Unity has a very diverse userbase, from bedroom coders through to large teams. It is important that we take all of them with us as we migrate from Unity 4 to Unity 5. So we needed technology that was high-end, but could still run in a mode where users would have to do little more than click a button to save out results.

"We pushed Geomerics hard to ensure that much of their geometry processing took place as a background task, which has worked out really nicely."

In fact, this push led to major improvements to Enlighten. Developers can now interact with the tech in many ways, from a simple, automated background bake tool, through to the cutting-edge, real-time global illumination solver.

Unity's final requirement was support for a wider range of platforms, with mobile increasingly important to their users.

"Mobile was the final piece of the jigsaw," says Doran. "With all the platforms in place we could sit down with Unity and map out a suitable plan for all parties. Unity have great reach and support for developers, so it made sense for them to continue building that relationship, with us supporting Unity directly. And our links to the major platform holders ensure a balanced solution for all".

The first demos of Unity 5 were shown at GDC 2014 and Geomerics feels it shows the great progress made by all parties. ■

www.geomerics.com

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KEY CONTACTS

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SERVICES SPOTLIGHT

This month: **The Design Works**

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CREATIVE SERVICES OUTFIT The Design Works aims to deliver exceptional results for its customers by consistently realising their visions.

Founded in 2009 by web and graphic designers Phil Bradley and Craig Bennett, the Doncaster design agency provides an extensive range of services for games makers.

"Our experience and huge breadth of services is what differentiates us from other companies in our field," director Bradley tells *Develop*. "We are able to deliver a dependable outcome for virtually any requirement you might have in either print or online."

From packaging artwork, website design and poster creations to event materials (such as banners, signs, exhibition stands), manuals (design and localisation), and product photography, The Design Works is ready to handle the full gamut of the market's needs.

Phil Bradley (above top) and Craig Bennett (above), and the Neo Geo X project they helped design and create

The firm's processes are guided entirely by the project brief. Bradley says they do not work to a rigid formula, which, in his opinion, restricts the creativity required for projects in the industry. It works directly with the client to get a "razor sharp picture" of what they want to achieve.

> ***"Our experience and huge breadth of services is what differentiates us."***
>
> Phil Bradley, Design Works

"Our strengths are our flexibility and ability to adapt to each project as a unique challenge," he says. "Our involvement in the project can vary from client to client. For example, we have contributed to projects where we worked on every single aspect of it, from concept drawings and 3D modelling to the finished hardware. We can be as involved as the client wants us to be."

One of its most high-profile projects to date is working on the Neo Geo X arcade console. It generated the initial concept design, the 3D modelling for the finished product, packaging, manual design and localisation in five languages, the product website, special edition materials and packaging and more.

"We were responsible for every single pixel and pen stroke relating to that project. The overall result was over £5m in revenue globally and it continues to be a huge source of revenue for the client," says Bradley.

A strong point of sale display can make all the difference. Bradley says that The Design Works' clients benefit from its experience and it continues to grow its reputation.

"Our combined 30 years of experience has given us the expertise to deliver what you need to an impeccable standard in a short period of time, leaving you time to focus on the quality of your product," he says. "Our experience enables us to take your vision and turn it into something presentable, regardless of how conceptual or vivid your brief."

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TOOLS SPOTLIGHT

This month: **Construct 2 (Scirra)**

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IT'S BEEN CALLED the 'Photoshop for games', and Construct 2 aims to be the 2D game editor that enables those without any technical knowledge to make games.

The PC-based game editor is the product of Scirra, a UK outfit started around 2006 as a loosely organised hobby project run by Ashley Gullen and some of his friends.

"Instead of traditional scripting or programming, which can have tricky syntax and require some degree of expertise to use, Construct 2 has a drag-and-drop block system called 'events'," Gullen tells *Develop*. "This is a non-patronising, genuinely productive alternative to coding, and can allow non-technical people like artists, designers, and students to produce games without needing to go and find a technical partner. It also allows technical developers to prototype ideas really quickly with little effort."

However, being built on HTML5, Construct 2 is also suitable for seasoned devs who desire more control.

So far, it supports 13 platforms, with more on the way. These includes the desktop and mobile web, iOS and Android native apps (via the CocoonJS wrapper), Mac and Linux desktop (via node-webkit), Windows 8, Windows Phone 8, BlackBerry 10 and Tizen.

Gullen says its biggest strengths are its ease of use and prototyping.

"Most other tools require the use of some kind of scripting, or have a limited drag-and-drop system that isn't very flexible and is basically a stepping stone to coding," he says. "Construct 2 has a really good set of behaviours – pre-built logic that developers can use to instantly add to any object."

> ***"Instead of traditional scripting, which can be tricky, Construct 2 has a drag-and-drop block system."***
>
> Ashley Gullen, Scirra

An example of Construct 2's layer and events interface, which Scirra hopes will simplify games development

Notable games that have used the technology include *Super Ubie Land* for the web, plus the in-production Wii U version, and *Mortar Melon*, a fruit-flinging physics puzzler, which has amassed over half a million downloads on the Windows 8 Store.

In the last six months, a new in-browser debugger has been added that allows you to pause, resume, save and restore, and inspect and edit variables in real-time. Other new features include support for Sprite Fonts, line-of-sight detection, geolocation and a new multiplayer engine.

Since finishing work on its debugger, Gullen says: "Next, we're thinking about improving the support for tile maps, such as being able to draw tiles with a brush, and perhaps real-time multiplayer games using WebRTC. We also get a lot of requests to port the editor to other platforms, since it currently only runs on Windows. We're thinking carefully about our long-term plans in this regard, and definitely want to address it."

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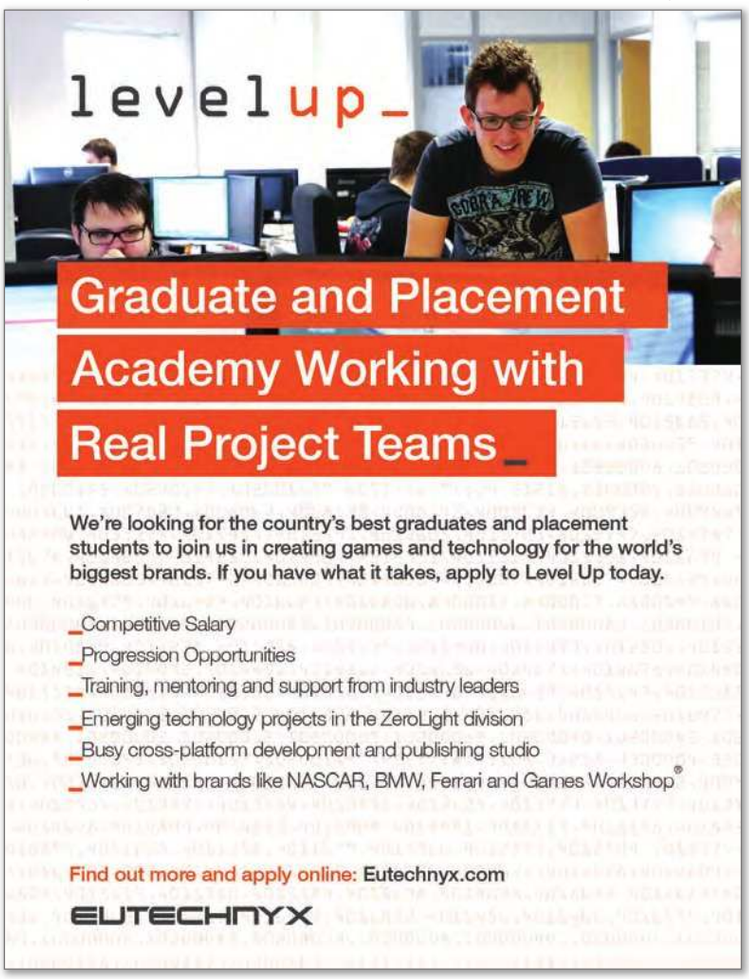
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TRAINING SPOTLIGHT

This month: **University of Hertfordshire**

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HERTFORDSHIRE HAS TAUGHT dozens of graduates that now reside in the games business. The secret to its string of success stories, programme leader Steve Hunt tells *Develop*, is having a good time.

"We just teach the industry disciplines that the lecturer staff have worked in and make sure we enjoy what we teach, as we believe this gives the students enjoyment too," Hunt says. "We keep the course content industry-facing, but allow for enough creative space for the students to experiment with new ideas."

Hertfordshire's courses, such as Games Art and Design, are heavily arts-based, incorporating projects away from computers intended to develop skills such as life drawing and clay modelling. The games course includes high-end modelling and texturing for the latest games engines. Some of the disciplines taught include character creation, organic and environment modelling, character animation, motion capture, visual effects for games and rigging.

"There are workshops for character design, storytelling, drawing, game studies and more. We also allow for the students to run master classes in the evening when the lecturers have finished, and then there are also extra drop-in life drawing classes," says Hunt.

Being focused on art and design, the university has software aplenty to cater to the needs of its budding artists. Maya, ZBrush, 3ds Max, Mudbox, Adobe tools and Mari are all employed, along with game engines UDK and CryEngine. "Software is always in flux with new software like DDO, NDO, Substance, Knald and many more hitting the market all the time," says Neil Gallagher, programme leader for Games Art. "Just a few weeks ago we were hearing reports of some studios in London only looking for Modo-trained artists, so lecturers and staff are always on our toes."

Veteran art director Jolyon Webb (Blitz Games Studios, Codemasters) has been the university's external contact for years. "His relationship has been great as he has helped shape the course and keep us in the right direction and feed us some fantastic ideas," says Gallagher. The university also has good relations with SCE London Studio ("Mike Bambury is not only a fantastic artist, he put in fantastic ground work setting up the course"), Soho Productions, Crytek UK, Frontier, Sony Cambridge, Lionhead and Codemasters, among others.

And many of Hertfordshire's graduates are not at studios such as these. In fact, Hertfordshire students have gained employment in over 65 games studios and 115 different animation and VFX studios. Last year, Hunt says 67 per cent of its graduates had their first choice employment in animation within three months. It has also been commended by the CG Student Awards for its teaching.

Gallagher says: "We have developed the design side of the games course this year to compliment the Games Art and will further develop this coming year. We have over 900 applications and are hoping in the years to come to expand the games area and make significant industry link-ups."

In 2011, 67 per cent of its graduates had their first choice employment in animation in three months

From buccaneers to brachiosauruses, animation at Hertfordshire can be the path to all kinds of opportunities

INFO

Course: BA and MA (Hons) Games Art and Design
Established: 2007
Staff: Steve Hunt (programme leader), Neil Gallagher (programme leader)
Notable alumni: Victor Gaza (SCE London Studio), Sören Hesse (technical environment artist, Bioware), Max Centra (technical artist, Frontier), Mark Ranson (senior environment artist, Rocksteady) Nicholas He (technical artist, Activision), David Hilborn (Guerrilla), Levi Næss (3D artist, Lift London), Scott Homer (senior artist, Crytek)

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THE FAQ PAGE: KARL HILTON

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Who are you and what do you do?
My name is Karl Hilton. I'm the managing director for Crytek UK, based up in Nottingham.

What are you working on right now?
Our main project at the moment is a new instalment in the *Homefront* franchise. We think there is a fascinating story world that exists from the first game and we want to see what we can do to take it to the next level, both on a technical level and from a narrative perspective. We're really excited about where we are taking the game. We also help develop Crytek's online FPS *Warface*, which is being launched in more and more global markets. And we do lots of R&D work.

Karl Hilton (below) started his career at Rare, working on the seminal GoldenEye (below right) for the N64

> ***"I'm a car fanatic, so I've always loved racing games – from old timers like OutRun to today's Forza."***
> Karl Hilton, Crytek UK

What was the first video game or product that you ever worked on in the industry?
My first job was at Rare during their Nintendo years. I had just been hired by them from university as an environment artist and I was lucky enough to be the first artist working on *GoldenEye 64*. There were just three of us initially: the team leader Martin Hollis, Mark Edmonds doing code, and me building backgrounds. It was a very exciting time as a noob to the industry.

What was the most recent video game you've played and did you enjoy it?
I've spent a little time on *GTA V* – very impressive game. The world is fantastic and the game has a great movie atmosphere. It's not the type of game I generally play but, like all good art forms, I think you can admire something without having to 'enjoy' it. Maybe I need to give it another go, though.

What is your favourite game ever and why?
I'm a car fanatic and love driving, so I've always loved racing games – from old timers like *Pole Position* and *OutRun* to today's *Gran Turismo* and *Forza*. That's a genre where each new generation of consoles and PCs has a direct impact on game quality: track and car modelling improves, framerates increase and most importantly the physics models for the handling really develops.

On a big screen with a first-person view, there is nothing I enjoy more in gaming than trying to beat my lap times on Silverstone or the Nürburgring. It's a bit obsessive, but hey.

What do you enjoy about the video games industry today?
The technology gets more ambitious with every new game that comes out and I find that very inspiring. There aren't many industries where the tech moves so fast and everyone has to develop at such incredible rates to stay competitive. Working in such a dynamic, technology-driven industry can be very demanding, often surprising, and sometimes positively scary, but it's also hugely exciting. I'd hate to be in an industry where the same processes and technology last for years. We are like a Formula One season that never ends and where there are no regulations. How cool is that?

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